Final Staff Assessment - Part 2

# MORRO BAY POWER PLANT PROJECT

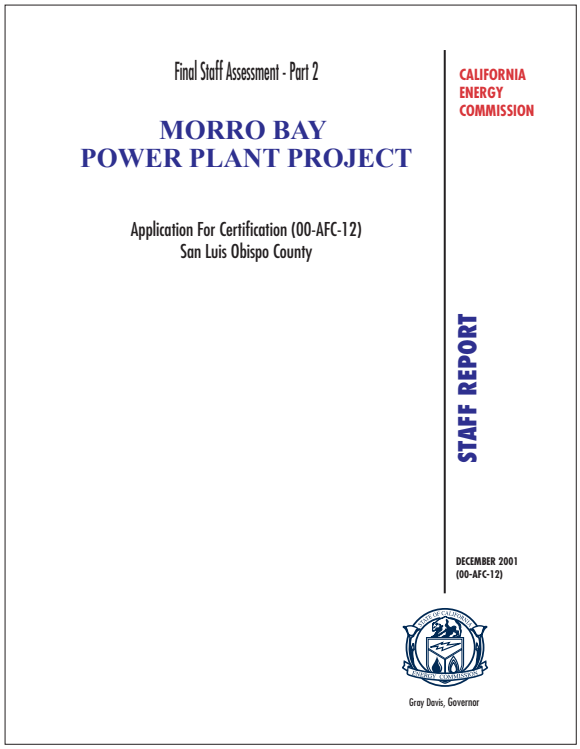
Application For Certification (00-AFC-12)
San Luis Obispo County

CALIFORNIA ENERGY COMMISSION

STAFF REPORT

DECEMBER 2001
(00-AFC-12)

Gray Davis, Governor

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# EXECUTIVE SUMMARY

Kae C. Lewis

## INTRODUCTION

This Final Staff Assessment (FSA) Part II contains the Energy Commission staff's analysis and recommendation on the Morro Bay Power Plant project (MBPP) in the technical areas of **cultural resources, land use** and **soil and water resources**. On November 15, 2001 staff filed Part I of the FSA that contained the following technical areas: air quality, efficiency, facility design, geology and paleontology, hazardous materials, noise and vibration, public health, reliability, socioeconomics, traffic and transportation, transmission line safety, transmission system engineering, visual resources, waste management, worker safety and fire protection. Part III of the FSA which will include biological resources and alternatives, will be filed at a subsequent date.

The MBPP and related facilities such as the electric transmission lines, natural gas line, water supply lines and wastewater lines are under the Energy Commission's jurisdiction (Pub. Resources Code §25500). When issuing a license, the Energy Commission acts as lead agency (Pub. Resource Code §25519(c)) under the California Environmental Quality Act (Pub. Resource Code §§21000 et seq.), and prepares an environmental analysis that is equivalent to the preparation of an environmental impact report (Cal. Code Regs., tit. 14 §15251(k)).

It is the responsibility of the Energy Commission staff to complete an independent assessment of the project's potential effects on the environment, the public's health and safety, and whether the project conforms with all applicable laws, ordinances, regulations and standards (LORS). The staff also recommends measures to mitigate potential significant adverse environmental effects and conditions for construction, operation and eventual closure of the project, if approved by the Energy Commission. The analyses contained in this document were prepared in accordance with Public Resources Code section 25500 et seq.; the California Code of Regulations, Title 20, section 1201 et seq. and the California Environmental Quality Act (Pub. Resources Code §21000 et seq.), and its guidelines (Cal. Code Regs., tit. 14 §15000 et seq.).

The staff is an independent party in the proceedings and this FSA presents staff's independent analyses. It examines engineering and environmental aspects of the MBPP, based on information available at the time of document creation. The FSA contains analyses similar to those contained in Environmental Impact Reports required by the California Environmental Quality Act (CEQA). It is not a Committee document nor is the FSA a final or proposed decision on the proposal. The FSA presents staff's conclusions and proposed conditions that apply to the design, construction, operation, and closure of the proposed facility, if certified.

Part I of the FSA contains the index of comments on the Preliminary Staff Assessment (PSA) for all technical sections that were received from other agencies and members of the public from June until mid-September. This index, along with copies of the comments, are included in an appendix to Part I.

## PROJECT LOCATION AND DESCRIPTION

On October 23, 2000 Duke Energy Morro Bay LLC (Duke Energy or applicant) filed an Application for Certification (AFC) seeking approval from the California Energy Commission (Energy Commission) to construct and operate the proposed 1,200-megawatt (MW) Morro Bay Power Plant Project (MBPP) on the site of the existing (formerly PG&E-owned) power plant in the City of Morro Bay (County of San Luis Obispo). On site and off-site construction laydown and parking areas that are located several miles south of the power plant are also part of the project.

The new units will replace currently operating generation units 1-4 with two 600 MW combined cycle units. Each new unit will consist of two gas-fired turbines and one steam turbine. Each new unit will have two ,145 foot tall stacks in place of the existing plant's three 450 foot tall stacks. To control emissions of air pollutants, the MBPP's combined cycle units will use the best available control technology (BACT), including selective catalytic reduction (SCR) for control of nitrogen oxides (NOx) and an oxidation catalyst for control of carbon monoxide. The SCR system consists of the reduction catalyst and an aqueous ammonia injection system.

Natural gas will continue to be delivered from Pacific Gas and Electric Company's Kettleman Compressor Station through PG&E pipeline 306. The MBPP will continue to interconnect with the electrical grid at the existing PG&E switchyard located on the plant site. The combined cycle units are expected to use a maximum of 475 million gallons per day (gpd) of seawater for cooling and boiler makeup. MBPP's freshwater usage will be about 10,000 gpd from its onsite wells for routine operation and maintenance.

Duke Energy proposes construction of the new generating units in a single construction phase lasting 21 months. Based on construction beginning in late 2002, commercial operation will begin in late 2004. The project will include demolition of the on-site fuel oil tank farm, all existing power plant equipment (boiler–steam turbine complex), and removal of three 450 feet tall exhaust stacks. The capital cost of the MBPP is expected to be $650 million. All construction and demolition at MBPP should be complete by year 2007-08.

## STAFF'S ASSESSMENT (PART II)

Each technical area assessment in the FSA Part II includes a discussion of the project and the existing environmental setting; the project's conformance with laws, ordinances, regulations and standards (LORS) and whether the facility can be constructed and operated safely and reliably; project specific and cumulative impacts; the environmental consequences of the project using the proposed mitigation measures; conclusions and recommendations; and any proposed conditions of certification under which the project should be constructed and operated, if approved.

These technical areas (cultural resources, land use and soil and water resources) were subjects of workshop discussions during the year 2001. Staff has received written comments from various parties on these subjects. Staff's conclusions,

recommendations and proposed conditions of certification for these topic areas reflect those workshop discussions and written comments.

In each of the technical areas in Part II staff believes that if recommendations and conditions of certification are implemented, the MBPP project will be in compliance with the applicable LORS, and no significant adverse direct, indirect, or cumulative impacts will occur.

## PART III OF THE FINAL STAFF ASSESSMENT (FSA)

Two technical areas have not been included in Part I or Part II because the information needed to complete the analysis is not yet available to staff. These technical areas are biological resources and alternatives. The staff is preparing evaluations on cooling water options and compensation options to mitigate biological impacts to aquatic species. These evaluations will be included as appendices to the biological resources section in Part lll of the FSA. The alternatives analysis cannot be completed until the identification of significant impacts in all FSA technical areas is complete. When the biological resources section is complete and any significant impacts are identified, staff can complete its evaluation of whether project alternatives would mitigate these significant impacts.

## STAFF'S RECOMMENDATION

For each of the technical areas in Part II of the FSA, staff believes that if recommendations and conditions of certification are implemented, the MBPP project will be in compliance with the applicable LORS, and no significant adverse direct, indirect, or cumulative impacts will occur.

Staff has not completed its evaluation for the technical areas of biological resources and alternatives. These will be completed after the staff obtains information from other agencies and completes its internal analyses. Staff's conclusions and recommendations will be presented in Part III of the MBPP's FSA which will be available at a later date.

# MORRO BAY POWER PLANT PROJECT (00-AFC-12)
## FSA PART II
## TABLE OF CONTENTS

# CULTURAL RESOURCES

Including Appendix A
Testimony of Dorothy Torres and Gary Reinoehl

## INTRODUCTION

The cultural resources section discusses potential impacts of the proposed Morro Bay Power Plant Project in the City of Morro Bay on cultural resources, which are defined under state law in the Laws Ordinances Regulations and Standards (LORS) section of this staff assessment. A cultural overview of the project is provided, as well as a California Environmental Quality Act (CEQA) criteria based analysis that assesses potential project related impacts. If cultural resources are identified, staff determines whether there may be a project related impact to identified resources and if the resource is eligible for the California Register of Historic Resources (CRHR), staff then recommends mitigation that will reduce the impact to the historical resource to a less than significant level.

There is also potential that a project may impact a previously unidentified resource or impact an historical resource in an unanticipated manner. Staff also recommends procedures in the conditions of certification that mitigate these potential impacts.

Three prehistoric sites are located within the vicinity of the Morro Bay Power Plant. Both previously recorded sites and one recently recorded site have been recommended as significant by the Applicant and are therefore likely to be eligible for the CRHR. Staff concurs with these archeological assessments. Discoveries of human remains have occurred at two of the sites previously identified and there is considerable concern in the Native American community regarding ground disturbance in the project area. Staff's proposed mitigation is intended to incorporate Native American representatives in the construction and demolition process to ensure that potential impacts to cultural resources are mitigated to less than significant.

## LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

## FEDERAL

Code of Federal Regulations, 36 CFR Part 61. Federal Guidelines for Historic Preservation Projects: The U.S. Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies, such as the Forest Service, the Bureau of Land Management, and the National Park Service. The State Historic Preservation Office refers to these standards in its requirements for mitigation of impacts to cultural resources on public lands in California.

- National Historic Preservation Act, 16 U.S.C. § 470, commonly referred to as Section 106, requires federal agencies to take into account the effects of their

undertakings on historic properties through consultations beginning at the early stages of project planning. Regulation revised in 1997 (36 CFR Part 800 ) set forth procedures to be followed for determining eligibility of cultural resources, determining the effect of the undertaking on the historic properties, and how the effect will be taken into account. The eligibility criteria and the process are used by federal agencies. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the California Register of Historical Resources.

## STATE

- California Code of Regulations, Title 14, Chapter 11.5, Section 4852 defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.
- Public Resources Code, Section 5000 establishes a California Register of Historic Places; determines significance of and defines eligible properties. It identifies any unauthorized removal or destruction of historic resources on sites located on public land as a misdemeanor. It also prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and establishes the penalty for possession of such artifacts with intent to sell or vandalize them as a felony. This section defines procedures for the notification of discovery of Native American artifacts or remains, and; states that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.
- The California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.; Title 14, California Code of Regulations, Section 15000 et seq.) requires analysis of potential environmental impacts of proposed projects and requires application of feasible mitigation measures.
- Public Resources Code Section 21083.2 states that the lead agency determines whether a project may have a significant effect on “unique” archaeological resources; if so, an EIR shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, the lead agency may require reasonable steps to preserve the resource in place. Otherwise, mitigation measures shall be required as prescribed in this section. The section discusses excavation as mitigation; limits the Applicant’s cost of mitigation; sets time frames for excavation; defines “unique and non-unique archaeological resources”; and provides for mitigation of unexpected resources.
- Public Resources Code Section 21084.1 indicates that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource; the section further defines a “historic resource” and describes what constitutes a “significant” historic resource.
- Title 14, California Code of Regulations, Section 15126.4(b) prescribes the manner of maintenance, repair, stabilization, restoration, conservation, or reconstruction as mitigation of a project’s impact on a historical resource; discusses documentation as a mitigation measure; and discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or

preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

- Section 15064.5 defines the term "historical resources," explains when a project may have a significant effect on historic resources, describes CEQA's applicability to archaeological sites, and specifies the relationship between "historical resources" and "unique archaeological resources."
- Penal Code, Section 622 1/2 states that anyone who willfully damages an object or thing of archaeological or historic interest is guilty of a misdemeanor.
- California Health and Safety Code, Section 7050.5 states that if human remains are discovered during construction, the project owner is required to contact the county coroner.

## CITY OF MORRO BAY

The Proposed Land Use Plan of the Local Coastal Program provides policies to address the City's concerns regarding cultural resources. The Plan was adopted in June of 1981 and amended in January and September of 1982. Since the City adopted these policies, there have been additions to state law that offer additional protection for human remains and grave related goods on private property. (See list of relevant state laws in this analysis).

The General Plan of Morro Bay, adopted in 1988, also provides protection for archaeological resources. The policies adopted by the City include a requirement that a qualified archaeologist perform an archaeological reconnaissance before a permit is issued in any areas containing potential archaeological sites. If a site is found, the City will require mitigation measures to protect it (City of Morro Bay General Plan,1988, Chapter II p. 114-117).

If any property in public ownership that contains a site is transferred from City to private ownership, there will be a deed restriction with provisions that protect the archaeological site. In addition, "All available measures, including purchases, tax relief purchase of development right etc. shall be explored to avoid development on significant archaeological sites" (City of Morro Bay Coastal Land Use Plan, 1981, Chap. 4 p. 95 to 98).

Ordinance 17.48.310 addresses the protection of archaeological resources. The ordinance asserts that it is the City's intent that significant archaeological and historic resources be protected. The ordinance identifies the steps necessary to ensure protection of the resources (City of Morro Bay Zoning Ordinance, Adopted 1995, p. 527).

## CHARACTERIZATION OF IDENTIFIED RESOURCES

Laws identified in the LORS section of this document apply to the treatment of cultural resources. These laws require the Energy Commission to categorize resources by determining whether they meet several sets of specified criteria. These categories then

in turn influence the analysis of impacts to the resources and the activities that may be required to mitigate any such impacts.

Under federal law, only historic or prehistoric sites, objects or features, or architectural resources that are determined by a qualified evaluator to be “important” or “significant’ in accordance with federal guidelines typically need to be considered during the planning process. The significance of historic and prehistoric cultural resources is judged in accordance with the criteria for eligibility for nomination to the National Register of Historic Places as defined in 36 CFR 60.4 or to the California Register of Historic Resources. If such resources are determined to be significant, and therefore eligible for listing in either of these registers, they are afforded certain considerations under the National Historic Preservation Act.

The **National Register of Historic Places** criteria state that “eligible historic properties” are: “districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and

(a) That are associated with events that have made a significant contribution to the broad patterns of our history;
(b) That are associated with the lives of persons significant in our past;
(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or
(d) that have yielded or may be likely to yield, information important to history or prehistory” (Code of Federal Regulations, Title 36, Part 60).

Isolated finds by definition do not meet these criteria. Resources determined not to be significant under the NHPA, that is not eligible for Nation al Register listing, are subject to recording and documentation only and are afforded no further consideration. However, occasionally certain resources, although they may not be eligible for inclusion in the NRHP, may nonetheless be of local or regional importance such that mitigation may be warranted regardless of their assessed NRHP significance. Staff evaluates any known resources located within or adjacent to the project APE to determine whether they meet these eligibility criteria.

A resource is considered to be “historically significant” and eligible for listing in the **California Register of Historical Resources** if it meets one of the following criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. It is associated with the lives of persons important in our past;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;
4. It has yielded, or may be likely to yield, information important in prehistory or history [California Code of Regulations, Title 14, Section 15064.5(a)(3)].

The CEQA guidelines require the lead agency (in this case, the Energy Commission) to make a determination of whether a proposed project will affect "historical resources" and sets forth a listing of criteria for making this determination. As used in CEQA, the term "historical resources" includes any resource, regardless of age, that meets any of these criteria. If the criteria are met, the Energy Commission must evaluate whether the project will cause a substantial adverse change in the significance of that historical resource, which the regulations define as a significant effect on the environment. Title 14, California Code of Regulations, Section 15064.5 states cultural resources are greater than 45 years old and that meet the following criteria and retain integrity are historical resource:

- "A resource listed in, or determined to be eligible by, the State Historical Resources Commission, for listing in the California Register of Historical Resources
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant; or
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, science, economic, agricultural, educational, social, political, military or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record" (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.);

If the criteria are met, the Energy Commission must evaluate whether the project will cause a substantial adverse change in the significance of that historical resource, which the regulations define as a significant effect on the environment.

Using the above criteria, staff has determined that the cultural resource sites described in the AFC meet one or more of the criteria for being an historical resource.

CEQA establishes limitations on Applicants' costs of mitigation for archeological resources that are unique and does not require discussion of non-unique archeological resources in an environmental impact report (Public Resources Code, section 21083.2). The statute also provides a definition of unique archeological resources. However, the CEQA Guidelines state that this prohibition does not apply when an archeological resource also meets the definition of an historical resource (California Code of Regulations, Title 14, Section 15064.5). Because staff has determined that the impacts to cultural resources for which it is recommending mitigation do meet the definition of historical resources, the prohibition does not apply to the mitigation discussed in this Final Staff Assessment.

## ENVIRONMENTAL SETTING

## REGIONAL DESCRIPTION

The project is located in central San Luis Obispo County which is for the most part located within the southernmost area of the Coast Range Geomorphic Province (Duke 2000a, p. 6.3-3). This geomorphic province is an area of differing landforms with both coastal terraces and cliffs that rise straight up from the shore (Morratto p.218). Coastal terraces often provided a desirable environment for habitation of prehistoric people.

## PROJECT VICINITY DESCRIPTION

The project is located in the vicinity of Estero Bay and is located at the extreme northern end of Morro Bay (Duke 2000a p. 6.7-7, Duke 2000a1 p. 2). It is situated approximately 12 miles northwest of San Luis Obispo in the City of Morro Bay with the Pacific Ocean on the west and rolling hills to the east. Alluvia and sand dune deposits surround it. Morro Rock is the prominent geologic feature in the area and is considered to be an eroded volcanic neck (Duke 2000a p. 6.3-3). The climate is cool and moist in winter and warm/moderate and dry in summer. Surface bodies of water within the project vicinity are Morro Bay, Estero Bay, Willow Camp Creek and Morro Creek (Duke 2000a, p. 6.5-7). Morro Bay has retained its present form since approximately 6,000 to 7,000 years before present (ybp). Morro Bay is an Estuary, and obtains most of its fresh water flow from Chorro and Los Osos Creeks which are situated approximately in the middle of the bay (Duke 2000a, p 6.5-25). Morro Bay is an area that was rich in both fresh water and ocean plants and fish and has provided a desirable habitation site for human beings over thousands of years. Refer to the **PROJECT DESCRIPTION** section of this Final Staff Assessment for a regional map of the project development area.

### Prehistoric Setting

The Cultural Resource Confidential Technical Report, submitted by the Applicant, asserts that people inhabited the area for at least 8,500 years before present. Although anthropologists and archaeologists have differing opinions about the nature of occupancy, it appears that both Chumash and Salinan people were present during prehistoric times in the vicinity of Morro Bay. There is historical evidence that indicates at least one prehistoric Native American village existed within the project area of potential effect (APE) (Duke 2000a1, pg. 3). The boundaries of Salinan and Chumash territory before European contact are the subject of present day disputes between representatives of the Chumash and Salinan communities and between authorities in the fields of archaeology and anthropology. It is not within the scope of this analysis to resolve these disputes. Two previously recorded archaeological sites have been identified within the project vicinity. The Applicant has tested a third deposit in the area of the tank farm and recommended that it meets the eligibility requirements of the CRHR.

### Historic Setting

The earliest European contact occurred when Sebastian Rodriquez Cermento arrived in Estero Bay in 1595. He was soon followed by other explorers, and in 1772, Mission San Luis Obispo was established.

A naval station was built on the project site in 1941 and 1942 and in 1953, PG&E began building the existing plant (Duke 2000a, Vol IV. Appendix 6-10, p2, 3). According to a July 7, 1955 article in the San Luis Obispo Telegram Tribune, " the new smokestack was considered a tourist attraction." Numerous newspaper articles lauded the building of the plant. Construction of the plant took place during the 1950's and 1960's with construction of a major addition in 1963.

## RESOURCES INVENTORY

As part of the preparation of the Application for Certification (AFC), consultants to the Applicant conducted archival research, a pedestrian survey, and Native American consultation.

### Archival Research

The Applicant conducted a record search at the Central Coast California Historical Resources Information System (CHRIS). The search included an area extending one mile from Morro Bay Power Project (MBPP) property boundaries (Duke 2001a, p. 4). These searches were conducted to establish location of known resources within the project area. The background searches provided a basis from which to predict the archaeological potential of the project area and were also used to provide a context for the evaluation of the significance of known or previously unknown resources that may be affected by the project.

A letter dated February 16, 1999, from the Central Coast CHRIS provided information that 10 archaeological surveys had been conducted within the one-mile radius. Ten prehistoric sites were identified; however there was no record of historical resources. The letter also indicated that most of the area has not been surveyed (Duke/Trump 2001a).

The record search revealed that previous surface and subsurface archaeological investigations had been conducted in the vicinity of the existing and proposed project. Site CA-SLO-16 was assessed by Roberta Greenwood in a survey report completed in 1973. A report by John Clemmer in 1962 identifies components at Site CA-SLO 239 that he believes may answer important research questions. Greenwood and Clemmer recommend these sites as significant in history (Duke 2000a1, p. 4 and Duke2001a1, p.1).

In addition, Dr. Parker conducted a background document review and record search that was concluded in March of 1999. He consulted numerous historic maps and historic sources. Although a Naval Station was built during WWII where the power plant and Veterans' Building are located, photographs indicate that the Naval Station had been razed by 1953. He concluded that all structures built prior to the power plant have been removed from the site.

The Applicant is proposing the use of three areas at Camp San Luis Obispo approximately 8 miles southeast of Morro Bay. The three areas total 39.2 acres in size. A record search was conducted by the Camp San Luis Obispo Base Archaeologist prior to field work. The search identified five previously recorded sites either within or adjacent to the footprint of the laydown areas (Duke 2001d p.3). Numerous WWII

buildings also exist at Camp San Luis Obispo. Base Archaeologist, Ethan Bertrando, has indicated that they have been mitigated to National Historic Preservation Act standards (Duke 2001d p. 7). The Applicant has provided documentation that representatives of all WWII wood building types have been recorded as mitigation for the Army's Section 106 actions (Duke 2001d).

The proposed off site satellite parking area is approximately 10.62 acres situated on the south side of Highway 1 between Highway 1 and Quintana Road. Minor grading and ground preparation will be necessary to support a park and ride facility. Most of the land on the parcel has been recently used for agriculture. A small portion of the area is used commercially with some of the area paved for parking (Duke 2001c1, p.1). A records search was conducted at the Central Coast CHRIS. The search revealed that fifteen prehistoric sites were previously recorded within one mile of the proposed satellite parking area. No cultural resource sites had been recorded within the foot print of the proposed area, however this area had not been previously surveyed for cultural resources (Duke 2001c1, p. 1).

### Field Surveys

Several field surveys were conducted for the MBPP site and project components. The first survey covered all proposed project site construction areas and selected outlying acreage. An additional field survey was conducted at Camp San Luis Obispo. Areas proposed for parking and laydown were surveyed. A third field survey was conducted of a proposed parking area at Quintana Road.

Following surveys at the project site, test borings were conducted to further determine whether there were undiscovered resources. Areas that appeared to indicate prior human habitation were identified. One area that would be subject to ground disturbance was identified and testing and data recover was conducted.

An additional survey and historical resources evaluation of the built environment was completed by E.G. Daves Rossell, PhD. And Kirk Peterson, AIA. They conducted an archival search and made several site visits to MBPP.

Additional detailed information regarding cultural resources surveys is provided in the impacts section of this cultural resource assessment.

### Native American Consultation

Letters were sent on March 7, 2001 by the applicant to individuals and groups of Native Americans who were on a list provided by the Native American Heritage Commission. A search of the NAHC sacred land files did not reveal any cultural resources identified within the project area as sacred. However, the NAHC's policy is not to identify sacred sites if they have a trinomial assigned to them by the CHRIS.

The Applicant contacted the State of California Native American Heritage Commission (NAHC) requesting a search of the Sacred Land File to obtain information regarding traditional cultural properties such as cemeteries and sacred sites in the project area. The NAHC maintains a list and maps of traditional resource sites located throughout the state. The Heritage Commission also refers staff, Applicants, consultants, and

members of the public to representatives of the Native American community who wish to be contacted regarding construction related ground disturbances in their area. The NAHC responded with a list of Native American contacts for the general project area. Individuals or groups were contacted for the original project in 1999 and an additional list was obtained and the Applicant sent letters, on March 7, 2001, to inform Native Americans regarding the amended project (Duke 2001b1)

The NAHC search of the Sacred Lands file dated February 28, 2001, indicated that no known traditional cultural use areas were located within the immediate project area. The record search conducted at the Central Coast CHRIS also failed to indicate the presence of Native American traditional cultural properties. However, information provided to staff under confidential cover indicated that CA-SLO-16 and CA-SLO-239 had been registered with the NAHC as a Salinan traditional cultural use and sacred areas (PSHS 2000a1, map). The request to the NAHC for information did not identify the areas as registered because the areas already had trinomial designations from the CHRIS identifying them as previously recorded archaeological sites. It is not NAHC policy to identify traditional cultural use areas that have previously been registered as archaeological sites and assigned trinomial designations (NAHC 2001a).

In order to accommodate Native American concerns, Duke entered into a Memorandum of Agreement (MOA) with the San Luis Obispo County Chumash Council. Additional efforts were made both by Duke and the SLOCCC to involve Native Americans who were not affiliated with the SLOCCC (Duke 2000a, Vol IV Appendix 6.7-4). The MOA was subsequently finalized and a copy appears in Volume IV of the AFC.

Native Americans who were not affiliated with the SLOCCC expressed concern that the SLOCCC could not adequately represent them regarding the treatment of human remains, artifacts that might be found, or concerns regarding Morro Rock. This opinion was expressed through phone calls to the NAHC, through phone calls and letters to staff at the Energy Commission, and through comments in public workshops.

It is the policy of the Energy Commission to encourage public participation and address public concerns regarding the projects in the permitting process. In keeping with Energy Commission policies, staff arranged to meet with members of the Native American community who wished to express concerns regarding the project. Cultural resource staff and the Energy Commission Public Advisor, Roberta Mendonca, met representatives of the Native American community on April 7, 2001, to provide information regarding the permitting process and to hear concerns. The meetings were attended by Native Americans who identified themselves as affiliated with the Northern Chumash Council, the SLOCCC, and the Salinan Nation, including the Playano Salinan Family Group. On April 23, 2001, staff met with representatives of the Santa Ynez Reservation and Tribal Elders Council.

On April 7, the concerns expressed centered on the potential treatment of human remains and other grave related items that might be unearthed during construction. There was concern that the treatment of burial items and human remains should be culturally appropriate. Several people said that testing of human bone is not appropriate treatment of human remains.

In addition, Native Americans expressed concern about the qualifications of Native American cultural resource monitors. They stated that monitors should be able to demonstrate a lineal connection to the area they are monitoring. Some people provided information that monitors played an important role in educating construction workers regarding Native American perspectives concerning human remains and artifacts.

Several people said they believe that Duke should deal with all Native American groups directly and not expect them to go through another entity. These people wanted to personally provide culturally relevant information. Representatives of the Santa Ynez Reservation said that they didn't have enough information to be able to comment on the project. Staff has provided additional information and has not received subsequent comment from representatives of the Santa Ynez Reservation.

The Energy Commission staff considers and addresses comments from other state and federal entities that have an interest in projects under review. Comments from the NAHC regarding MBPP, dated March 26, 2001, involve the participation of concerned Native Americans in projects in general and specifically the MBPP project. "The APE lies in an area of disputed indigenous occupation between current Chumash and Salinan descendants," (NAHC 2001). An additional comment states "The NAHC's policy in this disputed area, in cases of inadvertent discoveries of Native American human remains, is to identify 'Most Likely Descendants' (MLD) from both cultures to respond pursuant to California Public Resources Code Section 5097.98."

## IMPACTS

Impacts to cultural resources may result either directly or indirectly during the ground preparation, construction, and operation phases of a project. Direct impacts are those which may result from the immediate disturbance of resources, whether from vegetation removal, vehicle travel over the surface, excavation or other earth-moving activities. Direct impacts may include alteration of the surrounding built environment such that the significance of an historical resource would be materially impaired. Indirect impacts may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource materials due to improved accessibility. Since Morro Bay is an area where many archaeological sites have previously been identified, cumulative impacts to cultural resources may occur if increasing amounts of land are cleared and disturbed for the development of multiple projects in the vicinity of the proposed project.

The potential for the project to cause impacts to cultural resources is related to the likelihood that such resources are present and whether they are encountered during project development and construction activities. Although the existence of known cultural resources indicates further potential for unknown resources to be encountered, the absence of known resources does not necessarily mean that unknown resources will not be encountered and that impacts will therefore not occur. In addition, the potential for discovery does not measure the significance of individual artifacts or other cultural resources present, since it is impossible to accurately predict what specific materials could be encountered. Furthermore, sometimes the full significance of discovered cultural resources can only be determined after they have been collected,

prepared, and studied by professional archaeologists. The following table clarifies the significance of all the cultural resources identified as potentially impacted by this project (See Table 1).

**Table 1 Site Significance**

| Resource Designation | Tested (Yes/No) | Native American concerns | Duke Recommended Significant/Eligible | CEC Determination of Significance |
|---|---|---|---|---|
| ***Plant Site*** | | | | |
| CA-SLO-16 | Previous | Sacred | Significant | Significant |
| CA-SLO-239 | Previous | Sacred | Significant | Significant |
| CA-SLO-2124 | Yes | | Significant | Significant |
| Morro Rock | N/A | Sacred | | Significant/Listed on CRHR |
| Morro Bay Power Plant | N/A | | Significant | Significant |
| ***San Luis Obispo*** | | | | |
| CA-SLO-320 | N/A | | Not relocated | Not in project area |
| CA-SLO-371/H | N/A | | | Potentially significant |
| CA-SLO-1876 | Previous | | | Potentially significant |
| Camp San Luis Obispo | N/A | | Previously treated under National Historic Preservation Act | Previously treated under National Historic Preservation Act |

## PLANT SITE

Because project-related site development and construction would include ground disturbance, the proposed project has the potential to adversely affect previously unknown cultural resources. Three archaeological sites are within the project APE, and additional features, objects, buildings, or structures are known to be located in the vicinity of the proposed project. These include historic-era buildings and structures. (Duke 2000d1). This analysis will only discuss site location in a general way to assure the confidentiality of site locations (See Table 1).

The MBPP project will use existing transmission lines (Duke 2000a, p. 2-64.) and new pipelines will not be required outside the project area (Duke 2000a, p. 2-81). A sound wall will be located on top of the berm that is south of Morro Creek. The Fisherman's Gear storage facility and the project site will be landscaped to reduce visibility of the plant. The berms surrounding the tank farm will be engineered to blend in with the landscaping. The Applicant proposes the construction of several new bike and pedestrian paths that will create a bicycle/pedestrian loop around the MBPP property (Duke 2000a , p. 2.-23).

The project would be located in the area now occupied by oil storage tanks. Oil tanks will be demolished and removed prior to construction of the new plant (Duke 2000a, p. 2-10). The tank area is covered with fill. The level of fill varies from 4' to 10' (Duke 2000a1, Geotechnical Report, p.5). "Most of the tank farm area was originally a sand

dune that was graded as part of site development. The hydraulic fill unit consisting of silty sand, was dredged locally and placed on the tidal flats by the United State Navy in 1941 and 1942," (Duke 2000a, p. 2-10).
Most of the work to remove tanks 1 through 5 will occur within exterior berms surrounding the tank area of about 15 acres. Additional work will occur outside the bermed area to remove pipes and other equipment in an area of about 9 acres.

## Field Survey

The Applicant conducted a pedestrian field survey that totaled 40 acres, by walking transects across the property at 3-meter intervals. The survey covered all proposed construction areas and selected outlying acreage. Specifically, the survey area included, "…the ground and berms around all existing oil storage and processing tanks, the old plant access road to a distance of 10 meters on either side of the road. The entire bluff-top area at the plant's southeastern end, a triangular area between Morro Creek and Willow Camp Creek north of Tank #5, and a stretch of dunes immediately west of the Embarcadero both south and north of Morro Creek." (Duke 2000a,1 p. 5). The sidewalls of cut banks and eroded areas were examined for evidence of cultural resources. The ground was examined for both prehistoric and historic resources.

## Test Borings at the Project Site

Between July 5 and July 13, 2000, Dr. John Parker, archaeologist, and geoarchaeologist Jeff Parsons, assisted by San Luis Obispo County Chumash Council (SLOCCC) representative Mark Vigil, monitored spoils from 24 five-inch diameter geotechnical borings. The purpose of the monitoring was to identify possible subsurface archeolgical deposits within the proposed project area. Ten holes were drilled to a depth of 16 feet. The rest of the holes were drilled to bedrock, generally 60 to 80 feet (Duke 2000a1, Geotechnical p. 2). The Confidential Cultural Geotechnical report identified soil chemistry that suggested the existence of buried cultural resources in the vicinity of test holes B8, B10 and B24. Dr. Parker has completed the test excavation and evaluation in the area of test holes, B8 and B10 (Duke 2000a1, Geotechnical p. 17).

Additional geotechnical borings were conducted on April 12th and 13th, 2001. Five borings were placed using a test hole diameter of five inches. Four of the borings were within the berm area and one was outside it. The depth of the boring varied from 40' to 66.5'. None of the borings reached bedrock. In two locations results of the borings were not conclusive regarding the potential for prior human habitation in two locations (Duke 2001c, p. 1 & Geotechnial p. 6-8). The other test borings did not provide evidence of previous human habitation.

## Cratft Parking Lot, Willow Camp Creek Temporary Construction Bridge

Additional potential impacts may occur during ground disturbance for construction of the high pressure gas pipeline, craft parking lot/laydown area, and Willow Camp Creek temporary construction bridge. It does not appear that this area was subject to ground disturbance during previous construction. This increases the potential for unanticipated discoveries of cultural resources. There is also the possibility of construction disturbance to reburials of Native American remains in the vicinity of CA-SLO-16. (PSHS 2000) Staff recommends monitoring, to ensure avoidance, at a minimum 50 foot

radius from the known boundaries of CA-SLO-16, during ground disturbance near the site. Data responses indicate that project engineers are aware of the location of CA-SLO-16 and have determined that this site can be avoided during project related demolition and construction activities (Duke 2001a, p.1). If ground disturbance reveals that the site boundaries extend farther than anticipated, construction will halt and project components will be redesigned to avoid the site.

## Sites Located Within the Plant Site Boundaries

Three sites, CA-SLO-16, -239, and –2124, are present within the vicinity of the proposed plant site. Archaeologists have recommended that the sites meet the criteria for eligibility to the CRHR and are therefore significant resources. Staff agrees with this significance recommendation. The Applicant has indicated that methods including fencing and cultural resources monitoring would be used to protect previously recorded resources and it would be possible to avoid them. Dr. Parker has reflected Greenwood's identification of site boundaries for CA-SLO-16. Monitoring ground disturbance and construction at a minimum of 50 feet and the requirement in CUL-8 that specifies avoidance, if portions of these sites are identified during construction.

As a result of previous surveys, John S. Clemmer has suggested that CA-SLO-239 was a major village site, probably inhabited between 5,500-1,500 years ago. Site strata indicated at least three periods of change in resource procurement. In 1961, archaeologists were called to the project because a minimum of 48 burials had been exposed. Surface inspection completed by the Applicant in 1999 revealed that significant portions of the site exist intact and still contain significant cultural data (Duke 2001a1, p. 3-5). CA-SLO-239 has yielded information important to California and the local area and is eligible for the CRHR under criteron 4 (Parker 2000a, p.13).

Likewise, CA-SLO-16 appears also eligible to the CRHR due to its size, content and the intact nature of the remaining deposits. According to Roberta Greenwood, who in 1972 and 1973 conducted surveys and archaeological test borings in the vicinity of CA-SLO-16, it is possibly "the last major village site of which any evidence endures along the once populous shores of Morro Bay" (Duke 2001a1, p 8). Dr. Parker asserts that both CA-SLO-239 and CA-SLO-16 are considered to be "significant cultural resources and should be preserved in their present state" (Duke 2001a, p. 1).

Following test borings to identify potential areas of prior human habitation, Dr John Parker submitted a plan for cultural resource testing of the areas that might yield evidence of prior human habitation. The plan for testing the area later identified as site CA-SLO-2124 was submitted to the Energy Commission March 9, 2001 (Duke 2001a1).

On April 17, 2001, Dr. John Parker and geoarchaeologist Jeff Parsons began testing and data recovery at the site. Native American monitor Mark Vigil was present. CA-SLO-2124 is located 3 meters below the surface. No historic material was found during excavations. Marine shellfish made up the bulk of the material that was recovered. Five test units were excavated and recovered material was subjected to lab analysis. Dr. Parker hypothesizes that CA-SLO-2124 was a temporary sand dune camp, perhaps used by an individual family during the fishing

There were a variety of artifacts found at site CA-SLO-2124. Only a small amount of chipped stone was found at the site indicating that little tool manufacturing was occurring. One possible stone cobble was identified. Other cobbles were identified, but they appear to have been part of a fire pit. No ground stone tools were found. A single steatite disk bead was recovered (Duke 2001d, p.30-32). Dr. Parker also concluded that this was a single component site with a single period of use. Radio carbon dating, which is subject to many variables, placed this site within the time frames of 1460 AD to 1605 AD (Duke 2001d p.1-32).

Dr. Parker stated that most of the site is intact and undisturbed. It appears that the site was in use during "… the final century of traditional Native American culture" (Duke 2001d, p. 35 ). Dr. Parker asserts that CA-SLO-2124 is eligible under criteria 1 and 4. Eligibility for criterion 1 requires that an historic resource meet the requirement of an association with events that have made a significant contribution to the broad patterns of California history and cultural heritage. He also states that it fulfills the criteria for eligibility to the CRHR under criterion 4 because it is has yielded or may be likely to yield information important in California's history or prehistory (Duke 2001d, p.35).

Dr. Parker also provided a discussion of criteria used to determine the "scientifically consequential information from or about the resource." Dr. Parker explains that if a site contains material from only a single activity (he provides the example of stone tool making), that the site may be adequately mitigated by the "recovery and analysis of a one percent sample of the proposed area of impact" (Duke 2001d, p. 36). If the site is a result of more complex and varied living activities, then a sample of eight percent to ten percent would be necessary to mitigate impacts. It appears that portions of CA-SLO-2124 may extend under the existing tanks. Dr. Parker recommends that a final testing/mitigation program occur after tank removal in order to "simultaneously determine the extent of the cultural resource within the area of impact and recover the statistically valid sample as required by CEQA…" (Duke 2001d, p. 36). Staff agrees with this approach, but is not as concerned with site percentages as Dr. Parker. An effort shall be made to determine whether the site will yield or has a potential to yield additional information values. Mitigation will require an adequate amount of data recovery to retrieve the information values contained in the deposits of CA-SLO-2124.

No in-situ historic materials were identified indicating that there had been no historic disturbance at the site. The bulk of the material collected was made up of dietary shellfish. Because there didn't appear to be any changes to the types and weights of the sample species, Dr. Parker concluded that the site was inhabited for only a short period of time during a single time period (Duke 2001d, p. 26). No human mortuary remains were discovered during the excavation (Duke 2001d, p.35).

In Dr. Parker's opinion, this "cultural resource fulfills the criteria established for eligiblity for listing on the California Register of Historical Resources" (Duke 2001d p.35). Dr. Parker recommends that a final testing/mitigation of the site continue after tank removal. Staff agrees that testing and mitigation should continue after tank removal to ensure that all the data values from the site are collected. A testing and mitigation plan shall be included in the Cultural Resources Monitoring and Mitigation Plan (See proposed condition of certification CUL-3).

## Morro Rock

Morro Rock has been identified as a traditional cultural property by representatives of both the Salinan and Chumash communities and as a registered sacred site by the NAHC (NAHC 2001b, p.1). Concern has been raised that noise from the proposed plant may interfere with the traditional use of Morro Rock by Native Americans. The Applicant asserts that the new plant will be quieter than the existing plant. Noise suppression would be engineered on project features such as the stacks and a sound wall would be built on top of the berm south of Morro Creek (Duke 2000a, pp.1-26 & 2-24). Since the new plant will be quieter than the existing plant, it appears that there will be no significant adverse impacts to this cultural resource from noise.

In addition, questions were raised regarding impacts from the project on a medicine plant named Indian Pink (Silene spp) (PSHS 2000a1, enclosure). An additional concern centered around the welfare of the peregrine falcons on the Rock.

Staff consulted several of the Energy Commission's biology staff regarding the plant Indian Pink. Biology staff contends that since the existing power plant has been there for 50 years, it is not likely the new power plant will damage it. The plant is not listed as a species that needs protection apparently because it is part of the family "campion" which is very hardy and spreads quickly by seed (Bio 2001).

Brian Walton, Coordinator of the Santa Cruz Predatory Bird Research Group at the University of California, Santa Cruz, provided information regarding impacts from the proposed project on peregrine falcons. Mr. Walton regularly receives information concerning disturbances in the vicinity of Morro Rock that may affect the falcons. He is familiar with power plants along the California coast that peregrine falcons use as wintering perches and roost sites. Observations of falcon nests have occurred at the power plant since the 1970's and haven't identified any negative effects from the plant. Falcons frequently nest in urban areas where there is high air pollution and frequent noise, examples provided are Long Beach harbor, downtown Los Angeles and heavily traveled bridges in California. Mr. Walton concludes that there will be no impacts to the peregrine falcons from either air quality or noise at the proposed MBPP (Duke 2001b1b).

## Historic Property Assessment

A discussion of the criteria used to determine eligibility to the NRHP and the CRHR is provided in the "Characterization of Identified Resources" section of this cultural assessment.

The existing plant will be demolished and the demolition activities at the existing plant are expected to take three years. Mitigation measures in the conditions of certification that are applicable to the entire project apply to the demolition phase of the project.

A Morro Bay Power Plant Project Historic Property Evaluation was undertaken on behalf of the Applicant by E.G. Daves Rossell, Ph.D. and Kirk Peterson, AIA. PG&E records were searched and archival research was conducted at various repositories. A site visit of the power plant was also conducted on May 11, 12, 24, 25 and 26 (Duke 2001b2, p. 5). Their analysis addressed eligibility of the existing plant for the NRHP under the

Criteria found in Code of federal Regulations, Title 36, Part 60 and to the CRHR under Title 14, California Code of Regulations, section 15064.5. Dr. Rossell and Mr. Peterson conclude that although the Morro Bay Power Plant should be considered with other power plants built during the same era as eligible to the California Register under criteria 1, "Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage," the existing power plant does not meet the criteria for eligibility solely on its own merit as a single entity (Duke 2001b2, p.94).

The study recommended that the Morro Bay power plant be found eligible for the CRHR under criterion 3, which states "It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values," due to its "distinctive characteristics representing its type as a steam generating plant during the postwar period" (Duke 2001b2, p 92). It is also recommended as eligible to the NRHP for "…its engineering design and architectural merit" (Duke 2001b2, p.91). Staff concurs with this recommendation.

The eligibility of the existing power plant to either the NRHP or CRHR is of considerable importance to the Applicant, because construction of the new power plant will be accompanied by destruction of the existing one. Demolition of a resource eligible for listing on either the NRHP or CRHR requires meaningful mitigation. Due to the importance of the conclusions, staff requested a peer review of the historical evaluation by additional state historians and architectural historians. One reviewer recommended that the power plant be considered eligible under criteria a/1 and c/3 for the NRHP/CRHR. Two of the reviewers agreed that the conclusions were not supported well enough to make a determination of significance based on the information in the report. (See "Characterization of Identified Resources" section of this cultural assessment for a detailed discussion of eligibility criteria).

Rick Starzak, architectural historian hired by the Energy Commission, clarified some questions raised during a peer review of the Rossell and Peterson evaluation. Mr. Starzak agreed with Rossell and Peterson that the plant would be eligible under criteron C for the NRHP and the CRHR under criteron 3.

Mr. Starzak concluded that the evaporators would be required to find the plant eligible under criterion a or 1, however they have been removed. The evaporators were important because the existing Morro Bay Power Plant was part of a broad movement to provide steam generated electricity to the post WWII generation. Other steam plants were built during the same period, but the existing MBPP was the first power plant in the United States to use sea water evaporators to produce fresh water for steam generation.

However, Mr. Starzak agreed with the Applicant's consultant, finding that the power plant was architecturally exceptional. A conclusion that the plant is architecturally exceptional makes the power plant eligible to the NRHP or CRHR under criterion C or 3 (Starzak 2001).

Impacts to historic resources, if any, would occur during either ground disturbance construction or demolition. The power plant has been determined eligible to the NRHP and CRHR by both the Applicant's consultant (Duke 2001b2, p.91-92) and the consultant to the Energy Commission (Starzak 2001) The existing power plant has been recommended eligible under criteria C for the NRHP and 3 for the CRHR. Category c, includes resources that "… embody the distinct characteristics of a type, period, method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction…" (Duke 2001b2 p. 87). CEC staff concurs with this evaluation.

The demolition of the existing power plant will cause a significant adverse effect to an eligible cultural resource. To mitigate the impact below a level of significance, Dr. Rossell and Mr. Peterson recommend the following mitigation: "The owner should complete a Historic American Building Survey/Historic American Engineering Record (HAVS/HAER). The required level of documentation would be determined in consultation with the National Park Service and the State Historic Preservation Officer. " (Duke 2001b2, p. 95).

The existing plant will be demolished and the demolition activities at the existing plant are expected to take three years. Mitigation measures in the conditions of certification that are applicable to the entire project apply to the demolition phase of the project.

New combined cycle units will use the existing seawater intake and Duke will refurbish the exterior façade of the existing water intake building on the waterfront one year after commercial operation of the combined cycle units. The intent is to make the water intake building more architecturally compatible with the City's goals for the waterfront (Duke 2000a, p.2-19). The existing intake structure has been modified several times since it was built (Duke 2001b2). Mitigation for changes to the intake structure will be included with mitigation for the project as a whole.

In addition to the existing plant, there are other potential historic resources in within the vicinity of the plant. Some of the residences and commercial buildings within the project vicinity meet the 45 year criteria for consideration as historical resources. A neighborhood overlooking the power plant has residences that were built in the 1940's. Additional buildings, added from the 60's to the 80's changed the setting of the neighborhood. The older buildings were not fully evaluated. However, assuming that they are eligible for the CRHR, the setting would not be an important aspect of the eligibility for the older buildings because the setting has already been changed by the addition of buildings in the 60's through 80's. Therefore the change in setting by the power plant project would not represent a substantial adverse change in the significance for any of the older buildings. Two commercial buildings, the Polynesian-style Harbor Hut at 1205 Embarcadeo and the Thai Boat at 1219 Embacadero are examples of architectural theorist Robert Venturi's observations regarding American architecture and what is referred to as the 'decorated shed.' This style is demonstrated by the Thai Boat restaurant masquerading as an actual boat (Duke 2001b2, p. 34). The power plant intake structure is a notable feature. The oldest business that has been partially saved is Virg's Landing at 1216 Embarcadero, established in 1954. Virg's was identified as the first bait shop to sell live bait which facilitated catching albacore (Duke

2001b2 p. 8, 11). Virg's is now enclosed within a more recent commercial building. The Old Criddle House at 2738 Main Street was nominated to the CRHR in March of 2001, but none of the other properties appear eligible to NRHP or CRHR (Duke 2001b2, p 90) and it does not appear that the new plant will affect the setting of any of the properties. In summary, within the vicinity of the proposed plant there are three archaeological sites determined to be significant. There is also Morro Rock which is listed on the CRHR. In addition the existing power plant has been determined to be significant. (See Table 2)

**Table 2: Resource Significance at Plant Site**

| Resource Designation | Tested (Yes/No) | Native American concerns | Duke Recommended Significant/Eligible | CEC Determination of Significance |
|---|---|---|---|---|
| CA-SLO-16 | Previous | Sacred | Significant | Significant |
| CA-SLO-239 | Previous | Sacred | Significant | Significant |
| CA-SLO-2124 | Yes | | Significant | Significant |
| Morro Rock | N/A | Sacred | | Significant/Listed on CRHR |
| Morro Bay Power Plant | N/A | | Significant | Significant |

## CAMP SAN LUIS OBISPO

## Field Survey

Surface inspection at Camp San Luis Obispo consisted of walking transects of the project area at 5 to 8 meter intervals. The locations of previously recorded sites CA-SLO-1867 and CA-SLO-371 were identified. The rest of the examined area ranged from plowed areas to areas of both sparse and overgrown vegetation and areas of recent fill. Some areas were covered with asphalt. The location of previously identified site CA-SLO-320 could not be confirmed. Military buildings were also observed in some locations (Duke 2001a1b, p. 5-7).

### Camp San Luis Obispo Satellite Parking and Laydown Area

Three archaeological sites, one historic (CA-SLO-371/H) and the others prehistoric (CA-SLO-1867 and CA-SLO-320), were previously recorded within the proposed laydown parking areas. Staff verified Dr. Parker's assertion that the archaeologists who tested the site CA-SLO-1867 would recommend it as not eligible to the National Register of Historic Places (Duke 2001b1a p.7). Dr. Parker recommends, based on a draft report that CA-SLO-1867 is not significant. Since staff has not received the final report the site shall be treated as significant. Although he states that the site appears not to be significant, Dr. Parker recommends and staff concurs, that the site be covered with a level of fill to protect it before use as a laydown or parking area. The third archaeological site, CA-SLO-320 could not be relocated in the vicinity of the proposed laydown areas (Duke 2001b1a, p. 5). Dr. Parker re-identified the location of CA-SLO-371/H and recommended that this site also be covered with fill before being used as a laydown area. Staff recommends that the areas be identified by using a layer of fill that is a different color so that the boundary between the fill and the archeological deposit is easy to identify when the fill is removed.

Camp San Luis Obispo base archaeologist Ethan Bertrando indicated that a study had been completed that included base historic structures. The structures within the laydown areas are either modern or World War II wood temporary buildings. The World War II wood buildings are of the types that have been recorded in accordance with requirements of Section 106 of the National Historic Preservation Act. Historic American Building Survey/Historic American Engineering Record (HABS/HAER) records of the building types of the World War II wood buildings have been filed with the Library of Congress. No further mitigation is necessary (Duke 2001b1a, p. 7). (See Table 3)

**Table 3: Resource Significance at Camp San Luis Obispo**

| Resource Designation | Tested (Yes/No) | Native American concerns | Duke Recommended Significant/Eligible | CEC Determination of Significance |
|---|---|---|---|---|
| CA-SLO-320 | N/A | | Not relocated | Not in project area |
| CA-SLO-371/H | N/A | | Not evaluated | Potentially significant |
| CA-SLO-1876 | Previous | | Not significant | |
| Camp San Luis Obispo | N/A | | Previously treated under National Historic Preservation Act | Previously treated under National Historic Preservation Act |

## Quintana Road Off Site Parking

Field inspection of the Quintana Road property consisted of walking three meter transects across the surface of the property. The area was examined for evidence of both prehistoric and historic human activity. A complete visual inspection was possible. Four pieces of pismo clam shell were identified. Dr. Parker states that it is common to find pismo clam shells in cultivated areas because the shells were often used historically for hog feed and fertilizer (Duke 2001c1, p. 2).

No cultural resources were identified during either the records search or the pedestrian survey at this proposed off-site parking area. Pismo clam shells thought to be remnants of agricultural use were observed. Dr. Parker concludes that there will not be any impacts to previously identified cultural resources resulting from ground disturbance in this parking area and staff agrees with his conclusion. However, because there are 15 archaeological sites within a mile of this location, staff recommends monitoring during ground disturbance.

### Off Site Road Improvements

Road improvements will occur at the intersection of Main and Atascadero Road. There is an archaeological site located in the vicinity of planned road work that has been determined eligible to the NRHR. The road work will be permitted by the City of Morro Bay and the California Dept. of Transportation (Caltrans). The City and Caltrans are responsible for mitigation for any significant impacts to this site.

## CUMULATIVE IMPACTS

The City of Morro Bay is an area with potential for discovery of archaeological resources. There are 16 projects proposed within 1 mile of the MBPP (Duke 2000a, p. 6.1-4). Whether projects are major or small commercial/residential facilities, they will cause ground disturbance which will threaten previously identified sites and undiscovered resources. Irreplaceable cultural resources were destroyed as a result of the activities that occurred in the building of the naval station that was previously located at the project site.

Given the expected modern development throughout this region, any cultural resource materials or undisturbed sites found in the project area can provide valuable information on environmental conditions and human adaptations to earlier, environmental conditions. If mitigation measures such as avoidance, recordation, or data recovery are conducted for all of the project components, the potential cumulative impacts will be mitigated below a level of significance.

Development projects in the area of the plant may require demolition of buildings and structures. If historical resources are altered demolished or relocated such that the historical significance would be materially impaired, then there will be a significant effect on the environment. If mitigation measures are not sufficient to fully recover the importance of the resources then there will be a significant impact by the project. If this occurs, then there will be a cumulative impact to historical resources. It is not possible to anticipate the ability of a lead agency to provide appropriate mitigation measures to fully gather the significance of an historical resource. Therefore, there is a potential for a cumulative impact to historical resources. If mitigation measures for the development projects require mitigation measures such as avoidance, recordation, or data recovery, the potential cumulative impacts will be mitigated below a level of significance.

## FACILITY CLOSURE IMPACTS

The anticipated lifetime of the project is expected to be in excess of thirty years. The life of the combined cycle units is expected to be thirty, but good maintenance and equipment replacement may extend their usefulness (Duke 2000a, p. 4.3). At the time of closure, all then-applicable LORS and local/regional plans will be identified and the closure plan will address compliance with those LORS and plans. Generally, if no additional ground disturbance occurs during closure activities and all conditions of certification have been met, no impacts to cultural resources would be expected. However, actual potential impacts are more likely to depend upon the final location of project structures in relation to existing resources, upon the procedures used for the removal of project structures. Since the spatial relationship between the closure and removal of project structures and sensitive resources cannot be determined at this time, no final conclusion can be drawn with respect to the impact of permanent facility closure on cultural resources. However, if closure plans are submitted and approved through the Energy Commission process, and there is compliance with all conditions of certification and LORS, there will be no impacts to cultural resources.

A temporary unplanned closure would be likely to occur in response to an emergency. No impacts to cultural resources are expected from an unexpected temporary closure.

If a site were abandoned, impacts to cultural resources would be unlikely because there would be no immediate soil disturbances. Over time, depending on possible soil disturbance, some impacts on cultural resources might result.

## MITIGATION

The preferred method of mitigation is avoidance of areas during construction where cultural resource locations have previously been identified. However, avoidance is not always possible. At times, other mitigation methods including, but not limited to, surface collection, subsurface testing, and data recovery must be implemented. Mitigation measures are developed to reduce both adverse project impacts and the potential for adverse project impacts on cultural resources to a less than significant level.

## APPLICANT'S PROPOSED MITIGATION

Although the Applicant contends that no direct impact to resources is expected, they offer a list of proposed measures that would assure that no potential subsurface cultural resources would be adversely affected (Duke 2000a, p. 6.7-13). The Applicant would verify any suspected existence of cultural resources and would mitigate potential impacts through data recovery, if necessary. The Applicant also plans to have a professional archaeologist and Native American monitor present if project activities have a potential to impact cultural resources.

The Applicant has proposed sensitivity training regarding cultural resources and would direct crews to avoid areas where cultural resources have previously been identified. Temporary fencing would be used to protect existing cultural resources and work crews would be cautioned to avoid areas where cultural resources may be present. The Applicant also proposes a conservation easement that would protect known cultural resources on the MBPP site (Duke 2000a p. 6.7-13 & 14).

In an effort to mitigate impacts and potential impacts to cultural resources of Native American origin, the Applicant has entered into a MOA with the SLOCCC for consultation and monitoring.

## STAFF'S PROPOSED MITIGATION MEASURES

Staff concurs with many of the mitigation measures proposed by the Applicant for the discovery of archeological deposits. Staff, in proposed conditions of certification, has included additional language to clarify and ensure the success of the measures presented by the Applicant. The conditions would ensure that appropriate mitigation measures (See Table 4) are implemented if previously unknown cultural resources are encountered during pre-construction site preparation or during project construction.

The proposed mitigation measures are derived from good professional practice and are based on the U.S. Secretary of Interior guidelines, and the Commission staff's experience. All of these mitigation measures have previously proven successful in protecting sensitive cultural resources from construction-related impacts, while allowing the timely completion of many projects throughout California. In addition the recommendations have incorporated policies of the City of Morro Bay. Proper

implementation of these measures would lower any potential impacts to cultural resources to below the threshold of significance.

Staff applauds Duke's efforts to be responsive to Native American concerns regarding the discovery of human remains or artifacts of Native American origin. However, the level of concern among representatives of the Native American community regarding the archaeologically sensitive area in the vicinity of the project suggests that additional mitigation efforts are necessary.

MBPP is located in a "disputed area" according to the NAHC. Several different Native American groups from the area have expressed a desire to provide Duke with information. The representatives of the Native American community have expressed concern regarding previously identified archaeological sites, traditional cultural use areas, and artifacts that might be discovered and the appropriate treatment of human remains, from their particular cultural perspective. Staff recommends additional Native American participation in the MBPP project to mitigate impacts to an area that appears culturally significant to several Native American groups in the project area.

Of greatest concern to all the Native American groups is the disposition of human remains. Based on reports in the confidential filing, earth-moving activities at the project site in 1961 disturbed a minimum of 48 burials (Duke 2000a1, Appendix p.1). There are reports from other sources provided in the confidential technical report that humans remains have been encountered in other areas of the proposed project site (Duke 2000a1, Appendix p. 1). Additionally, there have been local anecdotal accounts of the presence of human remains at the project site. In the event human remains are encountered Health and Safety Code, Section7050.5 et seq., Public Resources Code, Section 5097.98 and Public Resources Code, Section 15064.5 (e) provide direction regarding procedures to be followed.

In keeping with NAHC policies, staff also recommends that archaeological and Native American consultation and monitoring occur at both the proposed and existing project, prior to and during ground disturbance. Areas to be monitored during ground disturbance should include any areas of ground disturbance outside the bermed areas, including but not limited to access roads, landscaping, bicycle trail and bridge construction, and existing plant demolition. In addition, monitoring during ground disturbance at the proposed parking and laydown areas at Camp San Luis Obispo and the satellite parking area at Quintana Road is recommended in the conditions of certification.

Duke should plan at least one meeting a month to consult with all concerned Native Americans regarding activities at the plant. Consultation and monitoring activities should be evenly distributed between concerned groups so that representatives of all groups, with concerns, have an opportunity to participate. Duke should also provide an opportunity for concerned Native Americans to provide insights and comments throughout the lab and analysis phases of data recovery and curation phase of the project.

Staff has prepared a plan (Appendix A to this section) with provisions for including representatives of each Native American group in monitoring activities during ground

surface preparation and construction and in areas where ground disturbance may occur during demolition. The plan also provides provisions for including concerned Native Americans in the laboratory and curation phases of data recovery.

Recording is recommended to mitigate impacts to the existing power plant which will be demolished and which is an historic building and eligible to the NRHP and CRHR. It shall be recorded on a Historic American Engineering Record (HAER).

**Table 4: Mitigation Measures**

| Resource Designation | CEC Determination of Significance | Duke Mitigation Recommendations | CEC Mitigation Requirements |
|---|---|---|---|
| ***Plant Site*** | | | |
| CA-SLO-16 | Significant | Avoidance | Monitoring to assure avoidance |
| CA-SLO-239 | Significant | Avoidance | Monitoring to assure avoidance |
| CA-SLO-2124 | Significant | Data Recovery | Data Recovery |
| Morro Rock | Significant/Listed on CRHR | N/A | No mitigation required |
| Morro Bay Power Plant | Significant | Recordation Before demolition | Recordation before demolition |
| ***San Luis Obispo*** | | | |
| CA-SLO-320 | Not in project area | N/A | N/A |
| CA-SLO-371/H | Potentially significant | Protect with layer of fill | Protect with layer of fill |
| CA-SLO-1876 | Potentially significant | Protect with layer of fill | Protect wit layer of fill |
| Camp San Luis Obispo | Previously treated under National Historic Preservation Act | No mitigation required | No mitigation required |

## COMPLIANCE WITH APPLICABLE LORS

Staff's proposed conditions of certification would ensure compliance with applicable LORS.

## PUBLIC, AGENCY AND APPLICANT COMMENTS

Native American Heritage Commission (NAHC)-letter dated October 5, 2001.

NAHC – 1 Comment: The Native American Heritage Commission clarified their policy regarding information concerning sacred sites. They indicated that they don't respond regarding sacred sites that have also been assigned trinomials by the CHRIS because information regarding sites that have trinomials is maintained at the CHRIS. They only identify sites when the search reveals unrecorded sites. "Morro Rock, for example, is

listed on the NAHC Sacred Land inventory, but also has a trinomial" (CA-SLO-41) (NAHC 2001b).

Response: Staff appreciates this clarification from the NAHC.
NAHC – 2 Comment: The NAHC agrees with previous Native American comments that destructive testing of human remains is not appropriate. They cite Pubic Resources Code §5097.98 (a) indicating that although a most likely descendent is consulted, their recommendations may only, "include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials."

Response: Public Resources Code §5097.98 (a) states, "The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

NAHC – 3 Comment: The NAHC can not require that Native American monitors demonstrate a relationship to the area where they are monitoring. The NAHC references "Native American Heritage Commission Guidelines for Monitors/Consultants Native American Cultural, Religious, and Burial Sites." The NAHC recommends that, "Since it is their traditional area being impacted, local Indians have vested interest in the project" (NAHC 2001b, p.1).

Response: Staff has added NAHC's recommendation that Native American monitors/consultants have traditional ties (an area of residence or use by their ancestral tribe) to the area in which they are monitoring or consulting to CUL-14.

NAHC – 4 Comment: "The NAHC endorses Mitigation measure CUL-14. A consultation plan should be developed that takes into account the concerns of all local Native Americans that feel cultural affiliation to the site. Provisions for monitoring by each group appears to be a fair and reasonable way to address the concerns of all local Native Americans. In the NAHC March 26, 2001 letter to you, commenting on the application for certification of the Morro Bay Power Plant Project, it was stated that the plant lies in an area of disputed indigenous occupation between current Chumash and Salinan descendants. NAHC policy in this disputed area, in cases of inadvertent discoveries of Native American human remains, is to identify 'Most Likely Descendants' from both cultures to respond pursuant to California Public Resources Code §5097.98. The NAHC has come to the conclusion that the question of prehistoric occupancy of this area may ultimately not be resolvable to the satisfaction of all those involved. It has always been NAHC policy to promote the greatest possible participation of culturally affiliated Native Americans in undertakings that may impact cultural resources within their indigenous territories" (NAHC 2001b, p. 1).

Response - Staff included this comment without paraphrasing because it summarizes the policy of the NAHC in regard to monitoring/consulting in this disputed area. Staff's condition of certification CUL-14 incorporates this policy.

City of Morro Bay (CMB) – Letter dated June 19, 2001
CMB – 10 Comment: The City expressed concern regarding site boundaries for CA-SLO-16. They requested that staff comment on the adequacy of established boundaries for site CA-SLO-16.

Response – Staff has included the recommendation, in the conditions of certification, that monitoring (both cultural resources and Native American) to ensure avoidance will occur any time ground disturbance occurs within a minimum of 50 feet from the boundaries of CA-SLO-16 or CA-SLO-239.

CMB –11 Comment: The City comments that the FSA should be revised to include the results of test excavations in the tank farm area. The City would like an opportunity to review and comment on the studies before the FSA is finalized.

Response: The FSA includes information concerning results of test excavations in the tank farm area.

CMB – 12 Comment: The City would like the opportunity to comment on the results of the architectural survey before the FSA is finalized.

Response: Staff has not received any additional comments from the City regarding this report. The survey report considers the eligibility of the existing power plant for listing on either the NRHP or CRHR.

CMB – 13 Comment: The City's comments that the PSA LORS Section indicates that CEQA sets limits to the Applicants costs for archaeological mitigation. The City asks that staff verify that costs for survey and testing (evaluation) are not included in the limitations.

Response: The archaeological sites being tested and mitigated for the MBPP are being evaluated as to their status as historical resources. Public Resources Code Section 21083.2 does not apply.

CMB – 14 Comment: The City would like an opportunity to review and comment on revisions to the "Characterization of Identified Resources " section in the FSA.

Response: The "Characterization of Identified Resources" section is intended to give an overview of criteria from both federal and state law that staff uses to identify historical resources. The City is welcome to comment.

CMB – 15 Comment: The City would like to review and comment on FSA sections that contain information regarding Indian Pink, SLO-16 site boundaries, new site information and the architectural significance of the power plant.

Response: The City is welcome to comment on these areas.

CMB – 16 Comment: The City would like to comment on the data recovery plan developed for investigation of possible sites within the boundaries of the proposed project.

Response: The Applicant provided a copy of the report to the Commission. The report was docketed under confidential cover. The City has not requested a copy of this document. The testing plan for this newly discovered site is referenced in this FSA. Staff has not received additional comments from the City.

CMB – 17 Comment: The City acknowledges the recommendations from the Energy Commission staff in the PSA workshop to include as part of the cultural resources team, a cultural anthropologist to assist the CRS with Native American concerns and also an osteologist in the event human remains are discovered. The City also suggested qualifications for cultural resources monitors and requested that the City receive copies of all resumes and qualifications submitted to comply with CUL-1.

Response: Staff has not amended CUL-1 to require these specialists. Staff assumes that the CRS, as part of their professional responsibilities will obtain any specialists needed to mitigate significant impacts to cultural resources on the MBPP project. Energy Commission qualifications for cultural resources monitors have been added to CUL-3. Staff will add the City into the verification for CUL-1 and CUL-3 as an agency that is to receive copies of qualifications and resumes for review and comment.

CMB – 18 Comment: The City is requesting that maps and drawings provided by the Applicant pursuant to CUL-2 be labeled to identify archaeologically sensitive areas and submitted under confidential cover. The City would like to receive copies of maps and drawings submitted under this condition. The City is suggesting that avoidance zones could be established around site boundaries.

Response: The intent of CUL-2 is to provide the CRS with the most current construction information so that he/she can fence or flag for avoidance and plan for monitoring or any other cultural resource activity. Copies are provided to the CPM under the verification portion of the condition so that staff can ensure that they have been provided to the CRS and that they are a type of maps and drawings that can be used by a CRS. There is no need for sensitive areas to be added to the maps because the CRS, CEC staff and the City already have that information.

CMB – 19 Comment: The City states that the CEC verbally agreed at the workshop to modify CUL-3 to require full-time monitoring within all archaeologically sensitive areas. They indicate that Energy Commission agreed to review and approve any changes in anticipated monitoring levels. The City suggests that the CRMMP should logically incorporate all the conditions and verifications required in the FSA. The City would like to review the CRMMP before it is finalized.

Response: The CRMMP is intended to be a document where the CRS tells the CPM how he/she will implement the conditions of certification. Staff requires an appendix that includes the text of all the conditions to be attached to the CRMMP, to ensure that there is no conflict between the CRMMP and the conditions. CuL-3 has been changed to specify that full time monitoring is required. CUL-8 specifies areas to be monitored and because new areas were identified after the PSA was written, CUL-8 has been updated to identify areas where monitoring will be required full time. Staff will add the City to the verification so that they can have an opportunity to comment on the CRMMP.

CMB – 20 Comment: The City noted that staff will require new hires to receive in–person training at least every two weeks from a qualified archaeologist within two weeks of beginning work on the site. The City commented on CUL-4 and CUL-5 and recommended video taping the initial workshop so that it can be shown to new construction personnel. The City would like to review and comment on the training

program and video script if a video is proposed. They also comment that the verification implies that only after all ground disturbance is completed can training be discontinued. They suggest that the CRS may be able to justify discontinuing training before ground disturbance is complete. The City suggests that the Energy Commission may wish to add flexibility to this verification requirement.

Response: Staff will amend CUL-4 and CUL-5 so there is no ambiguity regarding what is required for training. If a video is created and approved by the CPM, staff expects that in-person training will be provided at a minimum of every two weeks. If there is no video, it is the intent of the condition that in-person training be completed every week. The training should also begin before ground disturbance as CUL-5 requires. Since the entire project area including Camp San Luis Obispo is an extremely sensitive area for archaeological resources, it is unlikely that staff would be flexible regarding discontinuing training before ground disturbance is completed.

CMB –21 Comment: The City suggests that the CRMMP be used as a vehicle to verify and implement CUL-6. They suggest that it should include a section that details standard procedures that would be implemented when unanticipated cultural resources or unanticipated impacts are discovered. They also request that the CRMMP include a table with people to be notified, relevant phone numbers and timeframes for obtaining agency approvals and comments. They also request that the CRMMP include a dispute resolution process.

Response: The CRMMP is a document that details for staff, how the CRS will implement the conditions of certification. Staff anticipates that the CRS will provide details concerning what will transpire onsite in the event of unanticipated discoveries or impacts to explain how CUL-6 will be implemented.

Staff will change CUL-6 to require that the City of Morro Bay be notified in the event that there is an unanticipated discovery. The City is welcome to comment. However, since construction will be halted in the vicinity of discoveries or unanticipated impacts, staff makes every attempt to respond in a timely manner. As lead agency, staff is responsible under the law for determinations of significance.

Procedures regarding the treatment of human remains and associated grave goods are specified in law. All Native Americans who were asked to express their concerns regarding this project (even some who had no opinion about the project) overwhelmingly expressed the opinion that human remains should be avoided if at all possible. For clarification, at the beginning of the project, the Applicant contacted all those listed by the NAHC as interested Native Americans. Energy Commission staff also contacted those listed by the NAHC as interested Native Americans in the county where the project is proposed. Most likely Descendants (MLD's) are contacted by the NAHC when the NAHC is notified by the coroner that Native American human remains have been discovered.

The Energy Commission as lead agency under the law has the responsibility for determining significance. There is no reason to establish a dispute resolution process for unanticipated finds or impacts.

CMB – 22 Comment: The City asked that the term "vicinity" used in CUL-8 be quantified.
Response: Staff will modify CUL-8 to clarify that monitoring will be required if ground disturbance or construction are within a minimum distance of 50 feet of a previously identified significant cultural resources.

CMB-23 Comment: The City comments that the Energy Commission should consider revising condition CUL-10 to reflect the practice of curation of samples of large amounts of material, for example large quantities of shellfish. They ask that the condition be expanded to address issues regarding human remains and associated grave goods.

Response: CUL-10 only requires that items that are collected be curated. Seldom are large amounts of fire cracked rock collected. The procedure that Dr. Parker has used thus far does not collect a bulk sample of shell. The shell collected and analyzed represents a 1/25 sample of the materials excavated. That is a reasonable amount to curate. The treatment of human remains and associated grave goods is specified in state law.

CMB – 24 Comment: The City would like an opportunity to review and comment on the Cultural Resources Report required in CUL-11.

Response: Staff will add the City of Morro Bay to CUL-11 to ensure they receive a copy of the report.

CMB – 25 Comment: The City references their comment for CMB regarding CUL-10 regarding CUL-13 – 23.

Response: See the response to comment CMB-23 regarding CUL-10.

Tarren Collins, Attorney for San Luis Obispo County Chumash Council (SLOCCC) – letter dated July 17, 2001

SLOCCC - 1 Comment: Ms. Collins comments that people who attended the Native American/Energy Commission cultural staff meeting on June 5, 2001 did not receive copies of the PSA prior to the workshop. She also states that no points where the Chumash and Salinans were in disagreement were discussed on June 5th leaving areas of disagreement to surface at the PSA workshop on June 6th.

Response: The purpose of the meeting with Native Americans on June 5th was to obtain comments on the PSA. Since staff realized at the beginning of the meeting that people had not received copies of the PSA prior to the meeting, staff decided to review and discuss each condition of certification. Staff verbally discussed the text of each condition and received comments.

SLOCCC - 2 Comment: Ms. Collins expressed her dismay regarding what she interprets as misplaced concern for a Salinan cultural perspective as opposed to a regard for Chumash cultural perspective.

Response: Staff is implementing NAHC's policy of encouraging "the greatest possible participation of culturally affiliated Native Americans in undertakings that may impact cultural resources within their indigenous territories" (NAHC 2001b) In this disputed cultural area, the Energy Commission is treating Salinan and Chumash cultural concerns equally.

SLOCCC – 3 Comment: The SLOCCC is offering to host onsite meetings (similar to those suggested by staff at the first cultural resources workshop) with other Native American groups, during relevant construction and demolition phases of the project, including the Project Archeologist and Duke personnel.

Response: The SLOCCC is welcome to host any meetings they want to host. It is the project owner's responsibility to ensure that Native American groups and the public are informed concerning the project consistent with the conditions of certification.

SLOCCC-4 Comment: Ms Collins comments that the "… SLOCCC will be working with Duke and the project archaeologist to develop a plan for implementing the California Energy Commission conditions without usurping the SLOCCC's long standing role as leaders in the protection of the cultural resources in this area."

Response: It is the responsibility of the project owner and the CRS to implement conditions of certification. Staff's proposed conditions of certification do not attempt to resolve the disputes of indigenous occupancy, but implement the NAHC policy of encouraging participation of all Native Americans. Conditions are written to mitigate identified and potential impacts to significant cultural resources and to ensure compliance with LORS.

SLOCCC - 5 Comment: Ms. Collins comments that the SLOCCC has participated in numerous decision-making activities facilitating preparation of the AFC and other MBPP undertakings. They have also hosted meetings and invited other Native Americans to attend. She states that other Native Americans were not willing to attend these sessions. She concludes that, "the SLOCC will continue to involve and include other Native American groups as stipulated by the MOA."

Response: Members of other Native American groups (Chumash and Salinan) have commented both publicly and privately that they don't feel their cultural concerns can adequately be expressed by another group. They wish to represent themselves. Neither the Energy Commission or Native American groups (to the best of staff's knowledge) other than the SLOCCC are party to a MOA with Duke Energy.

Applicant's Comments on the PSA submitted August 15, 2001

- One comment 4.b stated that "As requested by the City of Morro Bay and with the knowledge of the Energy Commission staff, Duke entered into a good faith negotiation with SLOCCC that resulted in a MOA for the SLOCCC to represent interested Native Americans."
- Duke expressed their commitment to the MOA and expresses the opinion that this is the appropriate mechanism for Native American individuals to be involved in the project. They also state (with emphasis) that "The conditions of certification should

not, however, require Duke to arbitrate the existing disagreement and disputes among and between Native American groups. Duke cannot and will not mediate disputes on issue that are both ancient and beyond the scope of any of the Projects's impacts."

- Duke states that they are willing to consider any proposal that is developed jointly by concerned Native American groups related to the project to the extent that proposals are reasonable and feasible and do not affect the construction schedule or activities for the project.

Response: Staff's conditions of certification reflect a similar belief that it would be inappropriate for staff to attempt to resolve the issue of indigenous occupation. Instead, staff's proposed conditions implement the NAHC policy of including all interested Native Americans in the project.

## CONCLUSIONS AND RECOMMENDATIONS

## CONCLUSIONS

The proposed project has the potential to adversely affect cultural resources. Staff has conferred with biology staff and determined that there will be no impacts to the plant Silene spp., Indian Pink, or the peregrine falcons on Morro Rock. Testing and data recovery will mitigate impacts to a newly identified archaeological site in the vicinity of the proposed project to a level that is not significant. Monitoring by the Cultural Resource Specialist and a Cultural Resources Monitor and Native American Monitor, identification and mitigation will successfully reduce the impacts to cultural resources that might be discovered or known resources that might be impacted in an unanticipated manner to less than significant. The existing power plant has been determined to be eligible to both the NRHP and the CRHR, however, appropriate recording will mitigate the impact to a less than significant level.

## RECOMMENDATIONS

Staff recommends that the Commission adopt the following proposed conditions of certification, which incorporate the mitigation measures discussed above.

## PROPOSED CONDITIONS OF CERTIFICATION

**CUL-1** Prior to the start of ground disturbance, the project owner shall provide the California Energy Commission (Commission) Compliance Project Manager (CPM) with the name and statement of qualifications of its Cultural Resources Specialist (CRS), and one alternate CRS (if an alternate is proposed), who will be responsible for implementation of all cultural resources Conditions of Certification.

Protocol: The resume for the CRS and alternate, if an alternate is proposed shall include information that demonstrates that the CRS and alternate meet the minimum qualifications specified in the U.S. Secretary of Interior

Guidelines, as published by the State Office of Historic Preservation (1983). The minimum qualifications shall also include the following:

1) a graduate degree in anthropology, archaeology, California history, cultural resource management, or a comparable field;

2) at least three years of archaeological resource mitigation and field experience in California; and

3) at least one year's experience in each of the following areas:

   a) leading archaeological resource field surveys;

   b) leading site and artifact mapping, recording, and recovery operations;

   c) marshalling and use of equipment necessary for cultural resource recovery and testing;

   d) preparing recovered materials for analysis and identification;

   e) determining the need for appropriate sampling and/or testing in the field and in the lab;

   f) directing the analyses of mapped and recovered artifacts;

   g) completing the identification and inventory of recovered cultural resource materials; and

   h) preparing appropriate reports to be filed with the receiving curation repository, the State Historic Preservation Office, all appropriate regional archaeological information center(s).

The statement of qualifications for the CRS shall include:

1) a list of specific projects the CRS has previously worked on;

2) the role and responsibilities of the CRS for each project listed; and

3) the names and phone numbers of contacts familiar with the CRS's work on these referenced projects.

**Verification:** At least ninety days prior to the start of ground disturbance, the project owner shall submit the name and statement of qualifications of its CRS and alternate CRS (if an alternate is proposed) to the CPM for review and approval. The project owner shall provide copies of the CRS' and the alternate CRS' statement of qualifications to the City of Morro Bay for review and comment.

At least ten days, prior to the start of construction, the project owner shall confirm in writing to the CPM that the approved CRS will be available at the start of construction and is prepared to implement the cultural resources Conditions of Certification.

At least ten days prior to the termination or release of the CRS, the project owner shall obtain CPM approval of the replacement CRS by submitting to the CPM the name and resume of the proposed new CRS.

**CUL-2** Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps provided will include the USGS 7.5 minute topographic quadrangle map and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. In addition, the project owner shall provide a set of these maps to the CPM at the same time that they are provided to the CRS. If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the CRS and the CPM. Maps shall show the location of all areas where surface disturbance may be associated with access roads, and any other project components.

**Verification:** At least 75 days prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings. Copies of maps and drawings reflecting changes to the footprint of the power plant and/or project components shall be submitted to the CRS and CPM within five days of the changes. The project owner shall provide copies of all maps and drawings to the City of Morro Bay for review and comment.

**CUL-3** Prior to the start of ground disturbance, the CRS shall prepare, and the project owner shall submit to the CPM for review and approval, a Cultural Resources Monitoring and Mitigation Plan (CRMMP), identifying general and specific measures to minimize potential impacts to sensitive cultural resources.

The CRMMP shall include, but not be limited to, the following elements and measures:

a. A proposed research design that includes a discussion of questions that may be answered by the mapping, data and artifact recovery conducted during monitoring and mitigation activities, and by the post-construction analysis of recovered data and materials.

b. A discussion of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the pre-construction, construction, and post-construction analysis phases of the project.

c. Identification of the person(s) expected to perform each of the tasks and description of the mitigation team organizational structure and the inter-relationship of team roles and responsibilities. Specify the qualifications of any professional team members.

d. A discussion of measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how

these measures will be implemented prior to the start of construction and how long they will be needed to protect the resources from project-related effects.

e. A discussion of the participation by Native American Monitors/consultants (NAM), the procedures to be used to select them, the areas where they will be needed, and their role and responsibilities. The NAM(s) shall meet the criteria set forth in "Guidelines for Monitors/Consultants of Native American Cultural, Religous, and Burial Sites" provided by the Native American Heritage Commission (NAHC). The NAM shall provide comments on Native American artifacts and sites and ensure that any human remains that may be discovered are treated with dignity.

f. Identification of areas of ground disturbance where monitoring is deemed necessary by the CRS. The CRS will determine the size or extent of the areas where monitoring is to occur by the Cultural Resource Monintor(s) CRM. The areas to be monitored full time shall include the power plant site and the areas where grading and/or excavation will be required and at any off site parking or laydown areas.

The CRM shall have as a minimum, a bachelor's degree in anthropology, archaeology, California history, cultural resource management, or a comparable field, and at least one-year of field experience in California performing tasks in identifying cultural resource materials and sites, or two years of study in anthropology, archaeology, California history, cultural resource management, or a comparable field and four years of field experience in California performing tasks in identifying cultural resource materials and sites. As provided in CUL-6, in addition to the CRS and alternate CRS, CRM's shall have authority to halt construction.

g. A discussion of the requirement that all cultural resources encountered will be recorded and mapped (may include photos) and all significant or diagnostic resources will be collected for analysis and eventual curation into a retrievable storage collection in a public repository or museum that meets the California State Historic Resources Commission Guidelines on Curation Facilities of cultural resources.

h. A discussion of the availability and the CRS' access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.

i. Identification of the public institution that has agreed to receive any data and cultural resources recovered during project-related monitoring and mitigation work. Discussion of any requirements, specifications, or funding needed for the materials to be delivered for curation and how they will be met. Also include the name and phone number of the contact person at the institution.

**Verification:** At least sixty days prior to the start of ground disturbance activities, the project owner shall provide the CRMMP, prepared by the CRS, to the CPM for review and approval. Resumes of the CRMs shall be included in an Appendix to the CRMMP. The project owner shall provide a copy of the CRMMP to the City of Morro Bay for review and comment.

**CUL-4** Worker Environmental Awareness Training for all new employees shall be conducted prior to and during periods of ground disturbance. New employees shall receive training prior to starting work at the project site, linears or other project components. The training may be presented in the form of a video. The training shall include a discussion of applicable laws and penalties under the law. Training shall also include samples or visuals of artifacts that might be found in the project vicinity and the information that the CRS, alternate CRS or monitor has the authority to halt construction in the event of a discovery or unanticipated impact to a cultural resource. The training shall also instruct employees to halt or redirect work in the vicinity of a find and to contact their supervisor and the CRS or monitor. An informational brochure shall be provided that identifies reporting procedures in the event of a discovery. Information regarding Native American concerns shall be presented during this training. Workers shall sign an acknowledgement form that they have received training and a sticker shall be placed on hard hats indicating that environmental training has been completed.

**Verification:** At least 30 days prior to ground disturbance, the project owner shall provide a letter to the CPM stating that employees will not begin work until they have completed environmental training and that a sticker on hard hats will identify workers who have received training. Copies of acknowledgement forms signed by trainees shall be provided in the MCR.

**CUL-5** Prior to the start of ground disturbance and throughout the project construction period as needed for all new employees, at a minimum of every two weeks, the project owner shall ensure that the CRS or qualified individual(s) approved by the CPM provide the CPM-approved cultural resources training in-person to all project managers, construction supervisors, and workers. The project owner shall ensure that the designated trainer provides the workers with the CPM-approved set of procedures for reporting any sensitive resources that may be discovered during ground disturbance and the work curtailment procedures that the workers are to follow if previously unknown cultural resources are encountered during construction.

Training at the power plant site may be discontinued after all ground disturbance at the site has concluded and the CRS has inspected the site and determined that no cultural resources will be impacted. Training shall continue for project personnel working in the vicinity of other project components that will disturb native soils, including landscaping.

**Verification:** In each Monthly Compliance Report (MCR) after the start of construction, the project owner shall provide the CPM with documentation that the designated cultural resources trainer(s) has/have provided the CPM-approved cultural resources training and the set of reporting and work curtailment procedures to all workers.

After completion of all ground disturbance at the power plant site, if the project owner wishes to discontinue training at the site, the project owner shall provide a letter to the CPM indicating that the CRS has inspected the project site and has determined that no cultural resources will be impacted by completion of the project.

**CUL-6** The CRS, alternate CRS and the CRM(s) shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered or if known resources may be impacted in a previously unanticipated manner.

If such resources are found, the halting or redirection of construction shall remain in effect until all of the following have occurred:

a. the CRS has notified the CPM and the project owner of the find and the work stoppage;

b. the CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and

c. any necessary data recovery and mitigation has been completed.

If data recovery or other mitigation measures are required, the CRS and/or the alternate CRS and CRM(s), shall monitor these data recovery and mitigation measures, as needed. NAM(s) shall be provided an opportunity to participate, as discussed in Appendix A.

For any cultural resource encountered, the project owner shall notify the CPM and the City of Morro Bay, so that the City may comment, within 24 hours after the find.

All required data recovery and mitigation shall be completed expeditiously unless all parties agree to additional time.

**Verification:** Thirty days prior to the start of ground disturbance, the project owner shall provide the CPM with a letter confirming that the CRS, alternate CRS and CRM(s) have the authority to halt construction activities in the vicinity of a cultural resource find and stating that the CRS will notify the CPM, project owner and City of Morro Bay within 24 hours after a find.

**CUL-7** Throughout the project site preparation and construction period, the project owner shall provide the CRS and the CPM with a current schedule of anticipated monthly project activity (presented on a week-by-week basis) The CRS shall consult daily with the project superintendent or construction field manager to confirm the area(s) to be worked on the next day(s).

The CRS may informally discuss the cultural resources monitoring and mitigation activities with Commission technical staff.

**Verification:** The project owner shall provide the CRS and the CPM with a week-by-week schedule of the upcoming construction activities, one month in advance. These advance schedules are to be provided to the CPM with the MCR.

**CUL-8** The CRS shall monitor ground disturbance during construction and demolition, at a minimum, within 50 feet of the identified boundaries of CA-SLO-16 and CA-SLO-239 to ensure there are no impacts to the sites. Monitoring shall also occur full time during all ground disturbance at the project site, including utility lines and access roads, and the area of the sound wall and the Morro Creek foot bridge. Monitoring is also required during ground disturbance at all parking and laydown areas proposed for the project. In addition to the areas where full time CRS monitoring is required, the CRS, alternate CRS or CRM(s) shall be present at times the CRS deems appropriate, during the construction and demolition phases of the project to monitor ground disturbance, during project construction, and at any other locations specified in the approved monitoring and mitigation plan. NAM(s) shall be provided the opportunity to observe and comment pursuant to Appendix A.

Should cultural resources material be encountered outside previously established boundaries of CA-SLO-16 or CA-SLO-239, construction shall halt and project components shall be redesigned to ensure that the site will be avoided. If portions of CA-SLO-16 or 239 are encountered outside of established boundaries, the CPM will be notified within 24 hours.

**Verification:** During the construction and demolition phases of the project, and throughout the periods of ground disturbance, the project owner shall include in the MCR to the CPM, copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. The project owner shall provide the CPM with plans to redesign project components to avoid cultural resources sites as soon as they are completed. If portions of CA-SLO-16 or 239 are encountered outside of established boundaries.

**CUL-9** Throughout the pre-construction reconnaissance surveys and the construction monitoring and mitigation phases of the project, the CRS shall keep a daily log of any resource finds and the progress or status of the resource monitoring, mitigation, preparation, identification, and analytical work being conducted for the project. The daily logs shall indicate, where and when monitoring has taken place, where monitoring has been deemed unnecessary, and where cultural resources were found.

The CRS shall prepare a weekly summary report on the progress or status of cultural resources-related activities.

**Verification:** Throughout the project pre-construction and construction period, the project owner shall ensure that the daily log is available for periodic audit by the CPM. The weekly summary reports shall be included in the MCR.

**CUL-10** The project owner shall ensure that the CRS performs the recovery, preparation for analysis, analysis, preparation for curation, and delivery for curation of all cultural resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project. If artifacts are discovered, the NAM shall be provided an opportunity to comment upon all phases of data recovery, lab work, and plans for curation. Information as to the specific location of sensitive cultural resource sites shall be kept confidential and accessible only to qualified cultural resources specialists.

**Verification:** The project owner shall maintain in its compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate research CRSs involved in curation. The project owner shall maintain these files for the life of the project and the files shall be kept available for periodic audit by the CPM.

**CUL-11** After completion of the project, the project owner shall ensure that the CRS prepares a Cultural Resource Report (CRR) according to Archaeological Resource Management Reports (ARMR) Guidelines as recommended by the California Office of Historic Preservation. The project owner shall submit the report to the CPM for review and approval. The report shall be considered final upon approval by the CPM.

Protocol: The CRR shall include (but not be limited to) the following:

a. For all projects:

1) description of pre-project literature search, surveys, and any testing activities;

2) maps showing areas surveyed or tested;

3) description of any monitoring activities;
4) maps of any areas monitored; and

5) conclusions and recommendations.

b. For projects in which cultural resources were encountered, include the items specified under "a" and also provide:

1) site and isolated artifact records and maps;

2) description of testing for, and determinations of, significance and potential eligibility; and

3) research questions answered or raised by the data from the project.

c. For projects regarding which cultural resources were recovered, include the items specified under "a" and "b" and also provide:

1) descriptions (including drawings and/or photos) of recovered cultural materials;

2) results and findings of any special analyses conducted on recovered cultural resource materials;

3) an inventory list of recovered cultural resource materials; and

4) the name and location of the public repository that will receive the recovered cultural resources for curation.

**Verification:** After completion of the project, project owner shall ensure that the CRS completes the CRR within 90 following completion of the analysis of the recovered cultural materials. Within seven days after completion of the report, the project owner shall submit the CRR to the CPM for review and approval and to the City of Morro Bay (to a person authorized to receive confidential cultural resources information) for review and comment .

**CUL-12** After completion of the CRR, the project owner shall submit an original, an original-quality copy, or a computer disc copy of the CPM-approved CRR to the public repository to receive the recovered data and materials for curation, to the SHPO, and to the appropriate regional California Historical Resources Information System information center (CHRIS). If the report is submitted to any of these entities on a computer disc, the disc files must meet SHPO requirements for format and content.

Protocol: The copies of the CRR to be sent to the curating repository, the SHPO, and the regional CHRIS shall include the following (based on the applicable scenario (a, b, or c) set forth in the previous condition):

a. originals or original-quality copies of all text;

b. originals of any topographic maps showing site and resource locations;

c. originals or original-quality copies of drawings of significant or diagnostic cultural resource materials found during pre-construction surveys or during project-related monitoring, data recovery, or mitigation; and

d. photographs of the site(s) and the various cultural resource materials recovered during project monitoring and mitigation and subjected to post-recovery analysis and evaluation. The project owner shall provide the curating repository with a set of negatives for all of the photographs.

**Verification:** Within 30 after receiving approval of the CRR, the project owner shall provide to the CPM documentation that the report has been sent to the public repository receiving the recovered data and materials for curation, the SHPO, and the appropriate CHRIS.

For the life of the project the project owner shall maintain in its compliance files copies of all documentation related to the filing of the CRR with the following:

a) the public repository receiving the recovered data and materials for curation,
b) the SHPO, and
c) the appropriate CHRIS.

**CUL-13** Following the filing of the CPM-approved CRR with the appropriate entities, the project owner shall ensure that all cultural resource materials, maps and data collected during data recovery and mitigation for the project are delivered to the closest public repository with the ability to receive them. The facility shall meet the U.S. Secretary of Interior's requirements for the curation of cultural resources. The project owner shall pay any fees for curation required by the repository.

**Verification:** The project owner shall ensure that all recovered cultural resource materials are delivered for curation within thirty days after providing the CPM-approved CRR to the public repository and other entities receiving the recovered data and materials.

For the life of the project the project owner shall maintain in its project history or compliance files, copies of signed contracts or agreements with the public repository to which the project owner has delivered for curation all cultural resource materials collected during data recovery and mitigation for the project.

**CUL-**14 Prior to any ground disturbance, the project owner shall implement the Energy Commission's Native American Monitoring/Consultation Plan (included as an appendix A to this FSA) for consulting with concerned Native American groups that have traditional ties to the project area. The plan includes arrangements for addressing comments of each group regarding artifacts and sites that may be discovered. The plan also includes provisions for monitoring/consultation by each group by allotting equal amounts of time for monitoring/consultation and for incorporating each Native American group's comments concerning all aspects of the project including curation in the final CRR required by CUL-11.

**Verification:** Within seven days after certification, the project owner shall provide to the CPM copies of sent letters or summaries of phone calls inviting Native Americans in the identified groups to participate in monitoring/consulting. Within four weeks, the project owner shall provide copies of letters or summaries of phone calls from Native Americans responding to the offer to participate in monitoring consulting to the CPM. In addition, within four weeks after certification, the project owner shall provide the Names of potential monitors and the date that person was provided with updated information regarding cultural resources at MBPP. In the first MCR, and in all following MCRs, the CRS shall include information regarding any Native American activities/participation in the weekly summaries of daily monitoring reports required by CUL-8.

**CUL-15** Prior to the start of any ground disturbing activities, alteration or demolition, the project owner shall provide the CPM with the name and statement of qualifications of an architectural historian who will prepare Historic American Engineering Record (HAER) level documentation of the existing Morro Bay Power Plant and appurtenant facilities.

Protocol: The statement of qualifications for the architectural historian shall include all information needed to demonstrate that the architectural historian meet the necessary qualifications, including:

a) meets the Secretary of Interior's Professional Standards for architectural history;

b) has at least 5 years experience in recording 19th and 20th century architectural buildings;
c) names and phone numbers of contacts familiar with the architectural historian's work on these referenced projects.

**Verification:** At least 90 days prior to the start of project earth disturbing activities, alteration or demolition of the existing Morro Bay Power Plant and appurtenant facilities, the project owner shall submit the name and statement of qualifications of its architectural historian to the CPM for review and approval.

**CUL-16** Prior to demolition or alteration of the existing Morro Bay Power Plant and appurtenant facilities, the architectural historian will prepare Historic American Engineering Record (HAER) level documentation of the existing Morro Bay Power Plant and appurtenant facilities. This will include large format photography (views of overall site, individual buildings, and building details), a descriptive and historical narrative of the Morro Bay Power Plant, and a historic context for The International Style of architecture.

**Verification:** At least 30 days prior to demolition or alteration of the existing Morro Bay Power Plant or the appurtenant facilities, a copy of the HAER recording of the existing Morro Bay Power Plant and appurtenant facilities will be provided to the CPM for review and approval.

Within 30 days after CPM approval of the HAER, the project owner will provide a copy of the transmittal letters to the CPM of the HAER documentation to the Library of Congress, the California State Library, and to local libraries.

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# APPENDIX A

# CULTURAL RESOURCES

## MBPP NATIVE AMERICAN MONITORING/CONSULTATION PLAN

1. Within 72 hours of certification of the MBPP project by the Energy Commission, The Project Owner shalll contact members of the following local Native American groups. The groups have participated in the AFC process and profess traditional ties to the area and have been involved or have attempted to be involved in the project. The Project Owner shall use a list of names and addresses prepared by Energy Commission staff from public meeting sign-up sheets and names acquired from the Native American Heritage Commission (NAHC) public notification list. These names and addresses will be provided to Duke Energy under separate cover. The Project Owner shall offer to each group the opportunity to participate on an equal, rotating basis, in cultural resources monitoring/consulting during ground disturbance of the MBPP.

   a. SLOCCC
   b. Salinan Nation
   c. Northern Chumash Council
   d. Santa Ynez Band of Chumash Indians

2. Each group shall be responsible for monitoring for **one week** before alternating to the next group. Within two weeks of receiving a request from the project owner to provide name(s) of monitor consultants, each Native American group will identify one person from their group to be a lead monitor/consultant reporting to the CRS. If possible, an additional person or persons shall be selected by the respective group to be a back-up in the event the primary monitor is not available to cover a shift. The Cultural Resources Specialist (CRS) shall ensure that the Native American groups are informed of the monitoring and construction schedules on a weekly basis. Native American monitoring/consulting shall occur (during ground disturbance as required in the conditions of certification) on an alternating basis, giving each concerned Native American group an opportunity to have a representative on-site under the direction of the CRS or CRM. If a group chooses not to participate in the monitoring, the remaining groups will share the monitoring on an alternating basis.
3. Within four weeks of Energy Commission certification of the project, preferably before, the CRS shall contact the designated monitors/consultants of each group to update them regarding any cultural resources that were discovered prior to certification and to inform them of the locations of project related excavations and the cultural resources conditions of certification. A rotating schedule of monitors shall be in place and the CRS shall be ready to implement the monitoring schedule, prior to any ground disturbance or start of construction.

a. The lead Native American monitor/consultant from each group and any back-up monitor/consultant, selected by the group he/she represents, shall attend Project Owner's training required for all construction employees.

b. Native American monitoring/consulting, for the Morro Bay Power Plant Project shall occur under the direction of the CRS or Cultural Resource Monitors (CRM)(As defined in Cul-1 and Cul-3). Under no circumstances shall Native American monitors/consultants monitor ground disturbing activities without the on-site direction of the CRS or a CRM.

4. In the event of unanticipated discoveries, the Native American monitors/consultants for all groups shall be informed by the CRS concerning discovered cultural resource sites and shall be afforded an opportunity to comment on the sites and the meaning and significance of the discoveries. Comments shall be provided within 24 hours of being informed of a find and shall be incorporated into the final Cultural Resources Report (CRR) pursuant to Cul-12. Native American concerns regarding curation shall be incorporated into any agreement with a curation facility as long as they do not conflict with professional standards, applicable laws or federal or state guidelines.

In the event there is a discovery of human remains, state law shall be followed. In discussions with Energy Commission cultural staff, representatives of all the groups identified above expressed the desire that Native American burials should not be disturbed.

The CRS shall forward the information provided by the Native American monitor/consultants to the Energy Commission's Compliance Project Manager (CPM). The final responsibility for determining significance and/or eligibility to the California Register of Historic Resources (CRHR) shall lie with the Compliance Project Manager (CPM) who must be contacted about such finds by the CRS within 24 hours pursuant to Cul-6.

During each Native American monitor/consultant's rotation he/she may present a discussion of Native American concerns regarding cultural resources as part of the training program required by CUL-5.

# LAND USE

Testimony of Sue Walker and Mark Hamblin

## INTRODUCTION

This land use analysis of the Morro Bay Power Plant (MBPP) project focuses on two main issues: the project's consistency with local land use plans, ordinances and policies; and the project's compatibility with existing and planned land uses. In general, an electric generation project and its related facilities may be incompatible with existing and planned land uses if it creates unmitigated noise, dust, public health hazard or nuisance, traffic, or visual impacts or when it unduly restricts existing or planned future uses.

## LAWS, ORDINANCES, REGULATIONS AND STANDARDS

### STATE

#### Warren-Alquist Act (Pub. Resources Code § 25500 et seq.)

Pursuant to § 25529 of the Warren-Alquist Act, the Energy Commission shall require public access to coastal resources as a condition of certification of a facility proposed in the Coastal Zone as follows:

"When a facility is proposed to be located in the Coastal Zone or any other area with recreational, scenic, or historic value, the [Energy] Commission shall require, as a condition of certification of any facility contained in the application, that an area be established for public use, as determined by the Commission. Lands within such area shall be acquired and maintained by the Applicant and shall be available for public access and use, subject to restrictions required for security and public safety. The Applicant may dedicate such public use zone to any local agency agreeing to operate or maintain it for the benefit of the public. If no local agency agrees to operate or maintain the public use zone for the benefit of the public, the Applicant may dedicate such zone to the state. The [Energy] Commission shall also require that any facility to be located along the coast or shoreline of any major body of water be set back from the shoreline to permit reasonable public use and to protect scenic and aesthetic values."

#### Subdivision Map Act (Pub. Resources Code § 66410-66499.58)

The Subdivision Map Act provides procedures and requirements regulating land divisions (subdivisions) and the determining of parcel legality. Regulation and control of the design and improvement of subdivisions, by this Act, has been vested in the legislative bodies of local agencies. Each local agency by ordinance regulates and controls the initial design and improvement of common interest developments and subdivisions for which the Map Act requires a tentative and final map.

#### California Coastal Act of 1976 (Pub. Resources Code §30000 et seq.)

The California Coastal Act (Coastal Act) establishes a comprehensive scheme to govern land use planning along the entire California coast. The Act also sets forth

general policies (Public Resources Code §30200 et seq.) which govern the California Coastal Commission's review of permit applications and local plans.

In the case of energy facilities Section 30600 of the Coastal Act states; (a) Except as provided in subdivision (e), and in addition to obtaining any other permit required by law from any local government or from any state, regional, or local agency, any person, as defined in Section 21066, wishing to perform or undertake any development in the coastal zone, ***other than a facility subject to Section 25500***, shall obtain a coastal development permit. (Emphasis added), Section 25500 specifically identifies the Warren-Alquist Act and the Energy Commission's exclusive power to certify sites for 50 MW or greater power generation facilities or related facilities anywhere in the state.

The Coastal Act requires that the Coastal Commission designate specific locations within the Coastal Zone where the establishment of a thermal power plant subject to the Warren-Alquist Act could "prevent the achievement of the objectives" of the Coastal Act (§30413(b)).

The Coastal Commission has not designated the existing Morro Bay power generation facility as a site that is inappropriate for the facility or for reasonable expansion. The existing Morro Bay facility is shown on "Coastal Commission Power Plant Siting Study" maps 102 and 104.

Section 30260 of the Coastal Act states that coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

Section 30264. Notwithstanding any other provision of this division except subdivisions (b) and (c) of Section 30413, new or expanded thermal electric generating plants may be constructed in the coastal zone if the proposed coastal site has been determined by the State Energy Resources Conservation and Development Commission (Energy Commission) to have greater relative merit pursuant to the provisions of Section 25516.1 than available alternative sites and related facilities for an applicant's service area which have been determined to be acceptable pursuant to the provisions of Section 25516.

Pursuant to § 30500 of the Coastal Act, each local government lying within the Coastal Zone is required to prepare a Local Coastal Program (LCP) for management of that portion of the Coastal Zone within its jurisdiction. The California Coastal Commission retains permit authority over development until such time as the local LCP is adopted and certified by the Commission. Once the Coastal Commission certifies a LCP, the authority to issue Coastal Development Permits (CDPs) for development within the Coastal Zone is delegated to the local jurisdiction (§30519(a)). Notwithstanding § 30519(a), § 30600(a) of the Coastal Act specifies that a project proponent must obtain a

CDP for any development "other than a facility subject to the provisions of Section 25500" (i.e., a thermal power plant or related facility subject to the Warren-Alquist Act).

The City of Morro Bay has a LCP (a.k.a. Morro Bay Local Coastal Program**)** certified by the Coastal Commission that includes a Coastal Land Use Plan (CLUP), Zoning Ordinance and Land Use Map. Currently, the City is combining the CLUP with its General Plan.

## State Tide and Submerged Lands Leasing (Pub. Resources Code § 6701-6706)

The California State Lands Commission (State Lands Commission) is responsible for the management and administration of all lands owned by the State, including the leasing of tide and submerged lands within State jurisdiction (Division 6, Part 2, § 6701-6706 of the Public Resources Code).

During the late1930's the State Legislature statutorily transferred (granted) tide and submerged lands located along the coast in trust to local cities and counties in accordance to the Tideland Doctrine. Granted lands are monitored by the State Lands Commission to ensure compliance with the terms of the statutory grant. "These grants encourage the development of tidelands consistent with the public trust, while requiring grantees to re-invest revenues produced from lands back into lands where they are generated" (State Lands Commission, 2001). The coastal cities and counties were then required to develop harbors to further State and national commerce (State Lands Commission, 2001).

# LOCAL

## City Of Morro Bay General Plan

Under California State planning law, each incorporated City and County must adopt a comprehensive, long-term General Plan that governs the physical development of all lands under its jurisdiction. The General Plan consists of a statement of development policies and must include a diagram and text setting forth the objectives, principles, standards and proposals of the document. At a minimum, a General Plan has seven mandatory elements including Land Use; Circulation; Housing; Conservation; Open Space; Noise and Safety. The City adopted its comprehensive General Plan in 1988 (Duke 2000a). The City is currently combining its General Plan with its CLUP. As currently proposed, the combined General Plan/CLUP does not change any of the zoning or planning related issues associated with the project.

## City of Morro Bay Coastal Land Use Plan

The City's certified LCP includes the City's CLUP, Zoning Ordinance, and Land Use Map. The CLUP states the City's plans and policies for coastal areas consistent with the Coastal Act. The CLUP must be consistent with the City's General Plan; however, where inconsistencies occur between the two documents, the CLUP takes precedence. The CLUP primarily consists of: (1) a Land Use Map; and, (2) policies necessary to ensure the protection of resources and the regulation of development within the Coastal Zone. Elements of the CLUP are currently being incorporated into the City's General Plan to create a combined General Plan/CLUP.

Under the City's Land Use Map, which serves as the combined map for the General Plan and CLUP, the MBPP property as a whole is designated Coastal Development Industrial with Planned Development, and includes Interim/Open Space Uses in Industrial Categories and Environmentally Sensitive Habitat overlays (Sheppard, Mullin, Richter & Hampton, 2001, Duke, 2000a). The term Coastal Development Industrial is not defined in the General Plan, CLUP or City Zoning Ordinance; it appears in the legend of the Land Use Map only. However, Coastal-Dependent Industrial is defined in all of the City's land use planning documents. Attorneys for the City have determined that, for the purposes of its land use planning documents, Coastal-Dependent Industrial and Coastal Development Industrial are synonymous (Sheppard, Mullin, Richter & Hampton, 2001). The City Coastal Land Use Plan defines the land use of the property as "Coastal-Dependent Industrial." Chapter II, page 23 of the LCP defines this term:

"Coastal-Dependent Industrial Land Use: This land use specifically relates to those industrial land uses which are given priority by the Coastal Act of 1976 for location adjacent to the coastline. Examples of uses in this designation are thermal power plants, seawater intake structures, discharge structures, tanker support facilities, and other similar uses which must be located on or adjacent to the sea in order to function. The Morro Bay wastewater treatment facilities are protected in their present location since an important operational element, the outfall line, is coastal-dependent."

The LCP also contains the "Coastal Commission Power Plant Siting Study" (Figure 16) which shows the Morro Bay power generating facility property south of Morro Creek as "UNDESIGNATED CITY LAND AREA Power Plants Allowed." As stated in the City's Coastal Plan:

"According to a California Energy Commission report entitled "Feasibility of Expansion of Existing Coastal Zone Power Plants," the power plant site is the minimal adequate area for expansion of small facilities whose location would not further affect the unique view corridor of Morro Rock and the report indicates that conversion is unfeasible due to a variety of factors. The study does conclude that expansion is feasible of a small scale facility utilizing either steam turbine, the existing generating system, combined cycle or combustion turbine."

## City of Morro Bay Zoning Ordinance

Consistent with the City's General Plan and CLUP, the City's Zoning Ordinance (Municipal Code 17) designates the project site M-2, Coastal-Dependent Industrial district, with Planned Development and Interim/Open Space Uses in Industrial Categories overlays (Duke, 2000a; City of Morro Bay, 2001a).

Section 17.24.150 of the City of Morro Bay Zoning Ordinance, adopted September 25, 1995 states:

"The purpose of the M-2 district is to "provide districts for industrial development wherein manufacturing and other industries which require a site on or close to the ocean or harbor can locate and operate while maintaining an environment minimizing offensive or objectionable noise, dust, odor or other nuisances, all well designed and properly landscaped."

Section 17.40.030 of the City's Zoning Ordinance states:

"The purpose of the planned development (PD) overlay zone, is to provide for detailed and substantial analysis of development on parcels which, because of location, size or public ownership, warrant special review. This overlay zone is also intended to allow for the modification of or exemption from the development standards of the primary zone which would otherwise apply if such action would result in better design or other public benefit."

(PD) requires that development must occur in accordance with a Precise Development Plan, which has received discretionary approval from the City. Development is defined as "on land... the placement or erection of any solid material or structure...including any facility of any private, public or municipal utility" (Sheppard, Mullin, Richter & Hampton, 2001).

## City of Morro Bay Waterfront Master Plan

In 1989 the City Council authorized the establishment of a Waterfront Committee to develop a comprehensive Waterfront Master Plan (Master Plan) that would enhance and protect waterfront resources and a fishing village image. Draft Plans were prepared from 1993 through 1995 (City of Morro Bay, 2000b). In May, 1996, the City Council adopted Chapter 5 of the Master Plan, which provides design guidelines for the "waterfront area" (City Resolution No. 43-96). The City's Planned Development (PD) overlay states "for those areas of the city which are covered by the waterfront master plan, all new development projects requiring discretionary permits (conditional use permit, etc) shall be consistent with the design guidelines contained in Chapter 5 of the waterfront master plan (City of Morro Bay Zoning Ordinance section 17.40.030(d)) However, other portions of the Master Plan, including transportation and harbor improvements are currently considered recommendations only (City of Morro Bay, 2000a). The Master Plan has not been certified by the Coastal Commission (Duke, 2000a).

The Master Plan outlines several improvement projects in the vicinity of the existing MBPP. These include: connection of the two portions of the Embarcadero across Morro Creek; additional pedestrian and bicycle access surrounding the boundaries of the MBPP; improved transportation and circulation adjacent to the MBPP; low-impact recreational development within portions of the "Den Dulk" property (a project-related property); and, visual/design improvements within the harbor area (City of Morro Bay, 1996).

The Master Plan identifies four planning areas within the "waterfront area;" transportation and harbor improvement projects within these planning areas; development proposals and related approval conditions for other types of projects within the planning areas; and, the above-referenced design guidelines (Chapter 5). The four planning areas identified include the: Morro Rock/Coleman Park Area (Area 1); T-Piers/Fisherman Working Area (Area 2); Embarcadero Visitor Area (Area 3); and, Tidelands Park Area (Area 4) (City of Morro Bay, 1996).

Figure 2.1 of the Master Plan provides a map of the four planning areas. The boundaries of these planning areas are clearly marked as they run in a direction

perpendicular to the harbor/coastline; however, they are not specifically marked as they run in a horizontal direction to the coast. The City of Morro Bay maintains that the MBPP property is subject to the design criteria specified by Chapter 5 of the Master Plan (i.e. is located within the "waterfront area") (City of Morro Bay, 2001d); however, the Applicant maintains the position that the MBPP facility is located outside of the "waterfront area" (Duke Energy, 2001a).

In reviewing the Master Plan, it appears that the planning intent of Area 2 is primarily focused on the harbor's two T-piers and the fisherman's working area, which are located on the harbor side of the Embarcadero. This is supported by: (1) the inland termination points of Area 2's perpendicular boundaries, which end (a) at the intersection of Harbor Street and the Embarcadero, and (b) approximately 50 feet west/southwest of the corner of the existing MBPP (within the plant's "buffer" zone); (2) that plans presented in Map E.7 of the Master Plan do not extend inland past a proposed bike and pedestrian path immediately adjacent to the Embarcadero; and, (3) that proposals for Area 2 as presented in Chapter 4 of the Master Plan only address the MBPP site in the capacity of providing an educational center and "static display" of the facility's history, energy use and conservation, and alternative energy sources. In conclusion, Staff concurs with the Applicant that only the seawater intake structure is subject to the design guidelines of Chapter 5 of the Master Plan, and that the MBPP facility itself is located outside of the "waterfront area."

In 1997 City Staff was pursuing a possible grant from the Department of Boating and Waterways for development of a boat launch ramp near the end of Coleman Drive, as part of implementation of the Master Plan. However, based upon public testimony and infeasible design components, the project was terminated and a Boating Access Facility (BAF) Committee was formed by City Council.

The BAF Committee was directed to provide recommendations for improvements to the Master Plan. Specific recommendations made by the BAF Committee included: elimination of boat launch ramp at "Target Rock;" increasing the width of a proposed pedestrian/bike bridge over Morro Creek for emergency access; and, a conceptual plan for boating access, storage facilities, and development of recreational and some commercial opportunities within the Master Plan planning areas. In September 1997 City Council concurred to amend the Master Plan to incorporate these recommendations (City of Morro Bay, 1997a).

The conceptual plan amended to the Master Plan includes development within a portion of the "Den Dulk" property. Development would include recreational facilities, including a skateboard park and parking area ("Area 5"), as well as a boat hoist/access area and associated parking lot ("Area 3") (City of Morro Bay, 1996). It is noted, however, that in September, 1997 City Staff recommended that development of these features should only be undertaken if the City acquires the "Den Dulk" property (City of Morro Bay, 1997b). Duke has since taken ownership of this property.

## City of Morro Bay Flood Damage Prevention Ordinance (No. 477)

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods.

The NFIP makes federally backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

The NFIP is managed by the Federal Emergency Management Agency's (FEMA) Federal Insurance Administration and Mitigation Directorate. The Federal Insurance Administration manages the insurance component of the NFIP, and works closely with FEMA's Mitigation Directorate, which oversees the floodplain management aspect of the program.

The City has adopted a Flood Damage Prevention Ordinance (Ordinance No. 477, codified as Chapter 14.72 of the City's Zoning Ordinance) (Duke, 2000a). The current flood map associated with Ordinance No. 477 shows that the 100-year floodplain includes the lower reaches of the Morro Creek watershed; this area includes portions of the project site (Duke, 2000a).

As required by Ordinance No. 477, the Applicant must provide the City with a hydrologic analysis and facility design specifications that meet the applicable standards and requirements to ensure that: (1) the project does not adversely affect the flood carrying capacity of Morro Creek and the base flood water surface elevation adjacent to or upstream of the project site; and, (2) project features, including the levee system are both reasonably safe from flooding and comply with standards for anchoring, construction materials and methods, and elevation and flood-proofing (Duke, 2000a).

An alternative to the above would be to submit one or more requests to FEMA requesting that the applicable Flood Insurance Rate Map (FIRM) be amended or revised to reflect that the project site is situated above the base flood elevation (e.g. Letter of Map Revision). As may be necessary for this scenario, the dikes and berms surrounding the project site would likely need to be modified to meet construction standards established by FEMA (44 Code of Federal Regulations, § 65.10(b)) (Duke, 2000a).

Refer to the **SOILS AND WATER** section of the FSA for a more detailed discussion of flood prevention.

### San Luis Obispo County Land Use Plans and Ordinances

As discussed below, under **SETTING**, the project includes two components that are located outside of the City of Morro Bay. One is a proposed construction staging area located within Camp San Luis Obispo. The other is a proposed temporary satellite parking facility located along the south side of State Highway 1, approximately two to three miles southeast of the City of Morro Bay. The proposed satellite parking area falls under the jurisdiction of San Luis Obispo County (County) and is within the Coastal Zone.

The Camp San Luis Obsipo staging area would be leased from the California Army National Guard, which manages the property on behalf of the State. Specifically, Duke will be leasing three sites for a period of 24 months beginning in 2002 with an option to extend for 1 additional year.

The Camp San Luis totals 5,320 acres. The three areas to be leased have a combined area of 39.2 acres. The staging areas consist of Area A/B located at the former base motor pool complex (4.8 acres), Area C/D which is located at the site of the former Caltrans yard (12.4 ac), and staging Area E which is currently vacant and totals 22 acres.

Upon termination of Duke Energy's lease, the lease sites are to be restored to their pre-lease condition.

Under Camp San Luis Obispo's Draft Integrated Natural Resources Management Plan, the sites proposed for the staging area are designated "Urban" (Duke Energy, 2001b). In leasing the property to the Applicant for revenue purposes, the National Guard would likely be acting in a "propriety" capacity, and thus may not qualify for the State's sovereign immunity from local regulation (Duke Energy, 2001b). The National Guard has indicated to the Applicant that no discretionary or ministerial permits or approvals would be necessary (Duke Energy, 2001b). However, three of the sites associated with the staging area fall within the boundaries of the Coastal Zone, and are under the jurisdiction of San Luis Obispo County (San Luis Obispo County, 2001a). Consequently, the following discussion is focused on relevant land use plans and ordinances of San Luis Obispo County.

The San Luis Obispo County General Plan provides long term guidelines for land use and development. The Inland and Coastal Zone Land Use Elements (LUEs) of the General Plan designate the general distribution and intensity of both public and private land uses. There are four components that make up the Coastal Zone LUE: (1) a Framework for Planning; (2) Area Plans; (3) Official Maps; and, (4) Coastal Plan Policies (San Luis Obispo County, 2001b).

The County's Framework for Planning document provides a comprehensive overview of policies, and defines land use categories (i.e. designations). It includes a matrix (referred to as "Table O") that specifies what types of uses are allowed under each category. The Area Plans contain area-specific development standards. The Official Maps provide the geographic distribution of land use categories. The Coastal Plan Policies provide the policies for uses within the Coastal Zone.

The two LUEs are implemented and enforced by the Inland and Coastal Zone Land Use Ordinances (LUOs). The LUOs list the standards (requirements) and permit procedures for developing land. These standards include, among others, site design, minimum parcel sizes and setbacks, as well as specifications for grading, drainage, curb and gutter improvements and tree removal (San Luis Obispo County, 2001c).

Both the proposed offsite temporary satellite parking facility and that portion of the construction staging area that falls under the County's jurisdiction are located within the Estero Area Plan. The Estero Area Plan divides this planning area into four subareas: three urban and one rural (San Luis Obispo County, 1996a). Both sites fall within the rural planning subarea. The land use category for the temporary satellite parking facility is Agriculture with combining designations of Flood Hazard, Sensitive Resource Area (Chorro Creek), and Local Coastal Program Area (San Luis Obispo County, 1996a).

According to the County's Official Maps, Camp San Luis Obispo falls under the County's Public Facilities land use category (San Luis Obispo County, 2001a). Typically, the County does not exercise jurisdictional authority within the boundaries of Camp San Luis Obispo. However, Areas A, B and E of the proposed staging area fall within the Coastal Zone. The County does maintain land use and permitting authority over these three areas. The County has indicated that it does not currently have design standards specific to these properties (San Luis Obispo County, 2001a). All five areas that constitute the proposed staging area are adjacent to County designated Geologic Study Area boundaries and Special Resource Area boundaries (Chorro Creek).

## CITY OF MORRO BAY/DUKE AGREEMENT

### Draft Agreement To Lease and Agreement Regarding Power Plant Modernization

Duke Energy and the City of Morro Bay are currently negotiating a Draft "Agreement to Lease and Agreement Regarding Power Plant Modernization" (herein referenced as "Agreement to Lease") for the project. The Agreement to Lease, upon approval and signature by both parties would be a legally binding document between the City and the Applicant. Both the City and Applicant have stated that the Draft Agreement to Lease will be finalized after the public release of the project's FSA.

It is noted that the Agreement to Lease is a process that has been, to date, independent of the Energy Commission's review and decision making process, and that terms and conditions of the Draft Agreement to Lease have not been formulated in direct coordination with Staff's analysis.

The Draft Agreement to Lease, dated August 2001, contains 22 Articles that address numerous project components including, but not limited to, project terms and definitions, time frames for project construction and demolition, public and conservation easements, the project's Outfall Agreement, waterfront improvements, project fees and payments due to the City, and terms for modifications and arbitration.

Attachment A of the Draft Agreement to Lease contains the City's suggested conditions of certification based upon the "essential terms" of the Draft Agreement.

The City has requested the Energy Commission's consideration of incorporating the terms and conditions of the Draft Agreement to Lease into the Energy Commission's conditions of certification (City of Morro Bay, 2001e).

Staff has concluded that it is not appropriate to incorporate the specific terms of the Draft Agreement to Lease into the FSA because: (1) it is not currently a legally binding document; (2) it is an agreement exclusive to and independent of the Energy Commission certification process; (3) its terms and conditions have not been formulated in direct coordination with Staff's analysis; and, (4) several of the terms of the Agreement require the City to have a final approval, thereby preempting the Energy Commission of its exclusive authority under the Warren-Alquist Act. It should be noted that the terms and conditions of the Draft Agreement to Lease were review by staff while developing the recommended conditions of certification for this FSA.

## SETTING

The MBPP is located in the City of Morro Bay, San Luis Obispo County, California. The project site is situated west of State Highway 1, east of the Embarcadero, and south of Atascadero Road. The existing facility additionally includes a seawater (cooling water) intake structure located near the northern end of Morro Bay Harbor, and a cooling water discharge outfall ("Outfall Area") located north of Morro Rock. The site is surrounded by light industrial, coastal-dependent industrial, commercial, marine, residential, visitor-servicing, and recreational land uses.

## SITE AND VICINITY DESCRIPTION

The MBPP property is made up of one parcel totaling 107.35 acres owned by Duke Energy. PG&E, the original owner of the property filed an Application for a Lot Line Adjustment in 1997 to create two parcels: Parcel 1 – 107.35 ac.; and Parcel 2 -26.27 ac. The City of Morro Bay Subdivision Review Board approved Lot Line Adjustment MBAL 97-239 on December 29, 1997. The Certificate of Compliance that was prepared for the approved lot line adjustment map was recorded in the Office of the Recorder for the County of San Luis Obispo on February 25, 1998. PG&E retained ownership of Parcel 2 (26.27 ac.) which contains a substation/switchyard facility.

The acreage of the existing power generation facility footprint is 9.61 acres and includes the power plant buildings, transformers, stacks, shop, warehouse and office buildings, and parking (Duke, 2001b). The acreage of the proposed facility site is approximately 14 acres, and would be located immediately northwest of the existing facility. The new facility's acreage includes power plant equipment and structures, transformer, combined cycle units, heat recovery steam generators, gas turbine generator enclosure, administrative/warehouse and control building, substation, sound wall, and a transmission corridor to the existing PG&E electrical substation (Duke, 2001b).

The MBPP property is designated by the City Local Coastal Plan/General Plan Land Use Map, General Industrial and Coastal Development-Industrial with an overlay Planned Development and Interim Open Space. The property also has an Environmentally Sensitive Habitat designation shown on it. General plan land use designations surrounding the site include Open Space/Recreation with and overlay Park, Low/Medium Density Residential, Environmentally Sensitive Habitat, Visitor Serving/District Commercial, Neighborhood Commercial and General Industrial with an overlay Planned Development and Interim Open Space. **LAND USE Figure 1** provides the General Plan land use designations for the subject property and the vicinity.

The proposed project site (14 acres) for the new facility is zoned M-2, Coastal-Dependent Industrial district, with overlay zoning Planned Development and Interim Use (Duke, 2000). Adjacent zoning districts include M-1 (Light Industrial); R-2 (Duplex Residential); OA-1 and OA-2 (Open Area); ESH (Environmentally Sensitive Habitat); and, C-VS (Visitor Servicing Commercial) (Duke, 2000a). **LAND USE Figure 2** provides the zone districts on the MBPP property and the vicinity.

Existing land uses in the project vicinity are depicted in **LAND USE Figure 3**. Land uses immediately surrounding the project site include residential, visitor services, industrial (light and coastal dependent), commercial, marine, and recreation.

Residential development exists to the northeast, east and southeast of the project site. The majority of these residential developments are low/medium and medium density. The nearest residential area is located approximately 900 feet southeast of the project property boundary, along Scott Street (Duke, 2000a). This development occurred following construction of the existing MBPP. A mobile home park is located immediately north of Duke's 107 acre property.

Commercial areas of the City are made up of several uses, including motels, stores, restaurants, tourist facilities, commercial fishing and harbor-related facilities/establishments. The majority of the visitor-serving commercial facilities are located in the Main Street portion of the City, Morro Bay Boulevard, the Embarcadero and Market Street. The major visitor-serving resources of the City include Morro Rock, the Embarcadero area, Morro Park, Morro Strand State Beach, Morro Bay Golf Course, the North Morro Bay, Del Mar and Embarcadero commercial areas, and the bay front area (Duke, 2000a).

Industrial uses within the project's immediate vicinity include the existing MBPP, the PG&E substation, and the fisherman gear and storage area located north of the subject property.

Marine land uses within the area include commercial fishing and a variety of services and facilities associated with the Morro Bay Harbor.

Sensitive lands and open space areas within the project vicinity include Morro Rock, Fairbanks Point, Black Hill Natural Area, Morro Creek, Chorro Creek, Los Osos Creek, and the Morro Bay Estuary (Duke, 2000a). Morro Rock is located approximately one-half mile from the project property; the lower reaches of Morro Creek run along the northern end of the project property. The remainder of these sensitive lands/open space areas are located approximately one mile or more away from the project property.

"Sensitive receptors" in general involve institutions that sustain an assemblage of people that require limited or reduced exposure to noise levels, air and water pollution emissions, and other nuisances that are associated with the normal operations of commercial and industrial operations (e.g. schools, hospitals, churches, etc.). There are twelve (12) offsite sensitive receptors within a one mile radius of the project property (Duke, 2000b). These sensitive receptors include:

- A day care center (447 Hillview Street)
- Morro Bay High School (235 Atascadero Road)
- Morro Elementary School (1130 Napa Avenue)
- Pacifica Preschool/Day Care Center (685 Monterey Avenue)
- A retirement home (1405 Teresa)
- Estero Bay Day School (853 Quintana Road)

- Adult day health care (1475 Quintana Road)
- Del Mar Elementary School (501 Sequoia Street)
- A retirement home (2910 Cedar Avenue)
- Montessori School (600 Quintana Road)
- A retirement home (537-A Piney Way)
- A social service facility (445 Chorro Creek Road)

In addition to the MBPP property, the project additionally includes the use of two sites outside of the City of Morro Bay. These include a construction staging area within the Camp San Luis Obispo and an offsite satellite parking area located approximately two to three miles southeast of the City of Morro Bay. Both of these sites are proposed for use during construction and are not proposed as permanent project components.

Camp San Luis Obispo (Camp) is located in San Luis Obispo County, approximately five miles northwest of the City of San Luis Obispo and eight miles southeast of the City of Morro Bay. The Camp currently includes approximately 5,320 acres of land and is owned by the State of California and managed by the California National Guard. Use of the proposed site would be allowed via a lease agreement between the Applicant and the National Guard. The lease is proposed for a 24 month period, with a one year additional option (Duke Energy, 2001c).

LAND USE Figure 1
(formerly AFC Figure 6.9-1)
General Plan Land Use Designation Map

LAND USE Figure 2
(formerly AFC Figure 6.9-8)
Morro Bay Vicinity Zoning Districts Map

LAND USE Figure 3
(formerly AFC Figure 6.94)
Existing Land Uses

The proposed staging area would be comprised of three Areas: Area A/B would be located at a former base motor pool complex which is 4.8 acres in size; Area C/D would be located in a former Caltrans yard that is 12.4 acres in size; and, Area E would be located in a vacant lot that is between Areas A/B and C/D and is 22 acres in size. The combined acreage of these three areas is 39.2. Use of the Areas would include use of existing structures, installation of new structures and ancillary facilities (fences, gates, etc.), development and improvements of access roads and driveways, clearing and grading, surfacing, and, upon construction completion, restoration (Duke Energy, 2001c).The sites comprising the staging area have been previously developed. No housing structures occur on them, and they are served with all necessary infrastructure. The Areas are designated Urban in the Camp's Draft Integrated Natural Resources Management Plan (Duke Energy, 2001c). Lands to the south of the staging area are designated for training and grazing; the areas to the north, east and west are designated Urban (Duke Energy, 2001c). Construction of the staging area is considered "infill," or redevelopment of an existing urban area. Areas A, B and E fall with the San Luis Obispo County's Coastal Zone boundaries; Areas C and D are outside of this boundary (San Luis Obispo County, 2001b).

The proposed satellite parking area would be located along the south side of Highway 1 and is bordered to the north and east of Quintana Road. The site is approximately 10.62 acres in size and is within the unincorporated area of San Luis Obispo County. The purpose of the parking area is to provide additional parking for approximately 150 to 200 worker vehicles during the peak construction period. The site would be used for a period of approximately 12 months (Duke Energy, 2001d).

The site is currently a fallow agricultural field. According to the County's soils map and text, the site is not located on prime farmland (Duke Energy, 2001d). Land uses immediately surrounding the site include rural residential homes and farms, a veterinary clinic and State Highway 1. A mobile home park is located further to the west of the site. The site falls within the County's Coastal Zone boundary; its land use category is Agriculture with the combining designations of Flood Hazard, Sensitive Resource Area (Chorro Creek) and Local Coastal Program Area (San Luis Obispo County, 1996a).

## IMPACTS

According to Appendix G of the Guidelines to the California Environmental Quality Act (CEQA), a project may have a significant effect on land use if a proposed project would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect;
- Disrupt or divide the physical arrangement of an established community.
- Convert Prime Farmland, Farmland of Statewide Importance, or Unique Farmland to non-agricultural use.

A project may also have a significant impact on land use if it would create unmitigated noise, dust, public health hazard or nuisance, traffic, or visual impacts or when it precludes or unduly restricts existing or planned future uses.

## COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS

The laws, ordinances, regulations, standards (LORS) and policies applicable to the project have been analyzed below to determine the extent to which the MBPP project is consistent or at variance with each requirement or standard.

## STATE

## California Coastal Act (Pub. Resources Code § 30000 et. seq.)

The Coastal Commission has stated that they will be submitting their consistency /suitability report on the project after the public release of the Energy Commission's Final Staff Assessment (FSA). Therefore, the Coastal Commission's report including its '"findings", was not available to be incorporated into the FSA. The Coastal Commission's report may be filed as testimony during the evidentiary hearings to be conducted on the project by the Energy Commission.

Staff has attempted to review the project absent the Coastal Commission's report and make appropriate consistency and/or suitability "findings" using applicable policies of the Coastal Act, to the best of Energy Commission staff's knowledge of the Coastal Act, in order to complete the FSA.

The Coastal Commission staff suggested that staff review Public Resources Code sections: 30211, 30230, 30231, 30240, 30251, 30253 found in the Coastal Resources Planning and Management Policies of the Act.

In attempting to determine the MBPP project's consistency with the Coastal Act, staff reviewed the cited policies (above) and other policies from the California Coastal Act for their applicability and appropriateness under the land-use analysis.

Staff analysis of compliance with each applicable requirement has been italicized and presented below the summary of each requirement.

### State Agencies (Chapter 5, Article 2)

Pursuant to Public Resources Code §30413(b) of the Coastal Act, the Coastal Commission shall "designate those specific locations within the Coastal Zone where the location of a facility, as defined in § 251101, would prevent the achievement of the objectives of this division; provided, however, that specific locations that are presently used for such facilities and reasonable expansion thereof shall not be so designated." A "partial designation" may be given to areas where power plant siting is deemed unsuitable but underground facilities, such as cooling water conduits are permitted (City of Morro Bay, 2000b).

*The proposed modernization would be located entirely within the MBPP 107 acre property. Consequently, the project is consistent with Coastal Commission policy*

1 "Facility" is defined as a thermal power plant or electric transmission line regulated according to provisions of Division 15 of the Public Resources Code (i.e., Warren-Alquist Act).

*that prefers onsite expansion of existing power plants to development of new power plants in currently undeveloped areas of the Coastal Zone.*

**Public Access (Chapter 3, Article 2)**

Section 30211 - Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

*During construction, project activities would limit or delay public access to the coast via Coleman Drive and the Embarcadero due to high traffic volumes. These limitations or delays would be the greatest during peak project construction, which is anticipated to occur over a 14-month period between construction months 5 and 18 (Duke Energy, 2000). Although these impacts would be temporary in nature, Staff recommends a condition of certification found at the end of this assessment to minimize these impacts to the extent feasible. Additionally, upon completion of the project, a new pedestrian and bike bridge connecting the two currently unconnected sections of the Embarcadero would enhance public access to the coast, as would the proposed bike paths and dedication of the "Den Dulk" property for public coastal access. Consequently, the proposed project would not permanently hinder public access and can be found consistent with §30211. Please see the* ***TRAFFIC AND TRANSPORTATION*** *section of this FSA for additional information regarding public access.*

*Specifically, Duke Energy will enhance the existing access to Morro Strand State Beach by constructing public infrastructure improvements within an existing 36-foot public right- of- way. Duke will be constructing a 24 foot width asphalt all-weather road and an 11 foot Class I bike trail. The improvements replace an existing dirt road that currently provides access to southern Morro Strand Beach. The new road is to initially provide construction traffic access to the project site. The construction road will have signage and a k-rail providing separation between the temporary construction traffic and pedestrian and bicycle use. The current right-of way is an unimproved travel way with a few installed fire hydrants. The current travel way has severely deteriorated and eroded as a result of the weather, wind and existing and historical vehicle travel to the portion of Morro Strand Beach south of Morro Creek. The construction of the new road will facilitate public access to Morro Strand Beach.*

*Duke Energy is to construct a 24 foot width permanent bridge to span Morro Creek in order to provide construction traffic access to the project site. The bridge will connect Atascadero Road on the north side of Morro Creek with a new asphalt road (Embarcadero Extension) to be constructed on the south side of Morro Creek. During construction, a temporary k-rail will be installed on the bridge over Morro Creek, allowing pedestrians and bikes to safely pass through this area during the construction period on weekend days when there is no activity, or during other non-construction intervals. Duke states that "this bridge will be designed and operated during the construction period to allow bicycles over Morro Creek." The construction of the bridge provides the public a means for direct convenient southern travel on Atascadero Road to the Embarcadero*

*Extension traveling along the beach to get to the southern portion of Morro Strand Beach, the Morro Rock Natural Preserve and Morro Bay State Park.*

*The proposed new construction road and bridge over Morro Creek are designed to allow vehicles, bicycles, and pedestrians improved access to an existing unimproved parking lot south of Morro Creek on Morro Strand State Beach (It should be noted that the bridge will not be open to vehicle traffic after the completion of the construction of the new power generation facility).*

*The project proposes to construct several additional areas of new Class I and II bicycle and pedestrian paths.*

Section 30212. (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

*The Coastal Act requires that new development shall provide for coastal access from the nearest public roadway to the coast. However, these requirements are not applicable when adequate access exists nearby. As noted in 2 above, (see Section 30211 finding above) during construction public coastal access would be temporarily limited or delayed; however, upon completion of the project overall public coastal access would be improved and existing coastal access would not be hindered as a result of the commercial operation of the facility. Thus, the proposed project would be consistent with this Coastal Act requirement.*

Section 30212. (b) For purposes of this section, "new development" does not include: (1) Replacement of any structure pursuant to the provisions of subdivision (g) of Section 30610. (2) The demolition and reconstruction of a single-family residence; provided, that the reconstructed residence shall not exceed either the floor area, height or bulk of the former structure by more than 10 percent, and that the reconstructed residence shall be sited in the same location on the affected property as the former structure. (3) Improvements to any structure which do not change the intensity of its use, which do not increase either the floor area, height, or bulk of the structure by more than 10 percent, which do not block or impede public access, and which do not result in a seaward encroachment by the structure. (4) The reconstruction or repair of any seawall; provided, however, that the reconstructed or repaired seawall is not seaward of the location of the former structure. (5) Any repair or maintenance activity for which the commission has determined, pursuant to Section 30610, that a coastal development permit will be required unless the commission determines that the activity will have an adverse impact on lateral public access along the beach. As used in this subdivision, "bulk" means total interior cubic volume as measured from the exterior surface of the structure.

*The proposed MBPP project as described in the applicant's Application For Certification qualifies as "new development" under Section 30212(b) for the purposes of the California Coastal Act.*

*The project involves more than a demolition and reconstruction of a single-family residence.*

*The existing Morro Bay power generation facility will be removed and a facility of nearly equal magnitude will be constructed. The physical bulk of the new facility will decrease, but the number of power generating units will remain the same. The project involves replacing existing 1950s and 60s vintage generators with smaller, more efficient units. Smaller units are producing more power generating capability than the existing units. The output of the facility increases but only as a result of improvements in efficiency of the new units and not as a result of adding generation to the existing facilities.*

*The project does not involve the reconstruction or repair of a seawall.*

*The project does not involve a repair or maintenance activity.*

Section 30212. (c) Nothing in this division shall restrict public access nor shall it excuse the performance of duties and responsibilities of public agencies which are required by Sections 66478.1 to 66478.14, inclusive, of the Government Code and by Section 4 of Article X of the California Constitution.

*Duke has stated that they will ensure continued public access to State designated coastal lands during construction of the project. Duke is also providing enhancements to the existing public access to Morro Strand State Beach (see Section 30211 above). Additionally, Duke has taken ownership of property between Morro Strand State Beach and the west property boundary of the 107 acre power plant property, formerly known as the Den Dulk property. Duke is discussing with federal and state resources agencies futures uses for the property in order to address their "public access" requirement under the Coastal Act and "public use land" under the Warren-Alquist Act requirement. The future of Coleman Park on the recently purchased Duke property and the potential for its improvement has been discussed.*

*As of the writing of this report, the state public agencies and the City of Morro Bay have executed their duties and responsibilities in due diligence of the public access and the public use requirement under the Coastal Act, the State Government Code and the State Constitution.*

**Recreation (Chapter 3, Article 3)**

Section 30220. Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses. In addition, §30240 requires that projects adjacent to recreational areas be sited such as to minimize impacts to recreational areas.

*The proposed project would hinder recreational activities during construction due to limited or delayed access along Coleman Drive and the Embarcadero. However, the hindrance would be temporary in nature and would not permanently impede recreational activities near or along the coast, or within the harbor. In addition, components of the project include new recreational facilities (bike paths, the Embarcadero extension bike and footbridge, and the dedication of the "Den Dulk" property and Coleman Park to the City of Morro Bay). Staff has proposed Condition of Certification LAND-5 to address this LORS.*

*Surfing and beach related activities occur along Morro Strand State Beach north of the Morro Rock Natural Preserve.*

*The power plant's outfall channel is located on the north/northeast side of Morro Rock and borders Morro Strand State Beach. PG&E originally constructed the outfall channel. It has been in use since the mid-1950s and is proposed to be used by Duke. Discharges from the new power plant are required to comply with applicable federal and state regulations to protect human and environmental health. The National Pollutant Discharge Elimination System (NPDES) permit to be issued by the Central Coast RWQCB will specify parameters including, but not necessarily limited to flow, temperature, organic and inorganic constituents, oil and grease, floating and suspended materials, and aesthetic properties. Routine monitoring and reporting of discharges will assure compliance with regulations and permit conditions. Refer to the* ***SOIL AND WATER*** *section of the FSA for a discussion on this topic.*

*The existing MBPP site currently has a Storm Water Pollution Prevention Program (SWPPP) for ongoing operations that is being amended to include the new project.*

*Consequently, long-term protection of both water-oriented and onshore recreational activities would not be affected and the project would not conflict with §30220 and 30240 of the Coastal Act.*

**Marine Environment (Chapter 3, Article 4)**

Section 30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

*Energy Commission land use staff have determined that preparation of a finding under this finding is not appropriate in the "land use" technical section of the FSA. For additional information on this matter refer to the* ***BIOLOGICAL RESOURCES*** *section of this FSA.*

Section 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine

organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

*Energy Commission land use staff have determined that preparation of a finding under this finding is not appropriate in the "land use" technical section of the FSA. For additional information on this matter refer to the* ***BIOLOGICAL RESOURCES*** *section of this FSA.*

**Land Resource (Chapter 3, Article 5)**

Section 30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

*Duke is currently in consultation with state and federal resource agencies regarding impacts to about 4.5 acres of sensitive dune scrub habitat located within the area south of Morro Creek between Morro Strand Beach and the west property boundary of the MBPP property (former Den Dulk property). Duke recently purchased the property. Mitigation programs being discussed include providing a conservation easement to the California Department of Fish and Game over portions of the property. The Coastal Commission has also recommended that a large portion of this area be placed under a habitat conservation easement with a provision that no public access or public use is to occur within the sensitive habitat area except for use within the City's existing 36 foot public right-of -way.*

*For additional information on this matter refer to the* ***BIOLOGICAL RESOURCES*** *section of this FSA.*

Section 30240. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

*For additional information on this matter refer to the* ***BIOLOGICAL RESOURCES*** *section of this FSA.*

Sections 30230, 30231, and 30240 of the Coastal Act require provisions for the protection, maintenance, enhancement and, where feasible, restoration of marine resources, coastal waters, streams, estuaries, lakes and environmentally sensitive habitat areas to ensure biological productivity and value for a variety of reasons (i.e. environmental protection, long-term commercial, recreational, scientific, and educational purposes, etc). The proposed project has been designed to avoid or minimize impacts on these resources through design, and has been subsequently conditioned by the Energy Commission's Staff's analysis to ensure that these resources are protected to

the extent feasible. Please refer to the **BIOLOGICAL RESOURCES** section of this FSA for additional information under this topic.

Section 30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

*In general, the MBPP project as proposed will result in the lessening of the visual dominance in comparison to the original plant. It will also result in the elimination or lessening of the "visual competition" between the existing power plant and Morro Rock. Views of the skyline will improve with the replacement of the three 450-foot exhaust stacks and their aeronautical lighting with four 145 foot stacks, an approximate 68 percent reduction in height. Additionally, the project involves a refurbishing of the existing seawater intake structure's facade to more closely adhere to the City of Morro Bay's Waterfront Master Plan and its overall goal to have new and existing harbor structures reflect a fishing village image. Although the proposed project does not meet the City of Morro Bay's height restrictions, the overall intent of its visual and aesthetic goals and policies would be achieved, and impacts to visual resources would be reduced. As such, the project can be found to be consistent with §30251. Please refer to the **VISUAL RESOURCES** section of the FSA for additional information regarding scenic and visual issues associated with the project.*

**Development (Chapter 3, Article 6)**

Section 30253. New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic, instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.
(3) Be consistent with requirement imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.
(4) Minimize energy consumption and vehicle miles traveled.
(5) Where appropriate, protect special communities and neighborhoods, which, because of their unique characteristics, are popular visitor destination points for recreation uses.

*Energy Commission staff have determined that the preparation of a finding under this policy is not appropriate in the "land use" technical section of the FSA since the finding involves analysis in multiple technical sections within the FSA and are better addressed under the specific section. For additional information on this matter refer to the following sections noted below in this FSA for items 1-5 above:*

*(1) – see **SOIL AND WATER RESOURCES, WORKER SAFETY, FIRE PROTECTION;***
*(2) – see **SOIL AND WATER RESOURCES**;*
*(3) – see **AIR QUALITY**;*
*(4) – see **FACILITY DESIGN** section of the FSA. Additionally, in addressing the requirement to minimize vehicle miles traveled, the new facility is being constructed next to the original facility. The existing facility is to be demolished. The project does not result in any new permanent employees in addition to the existing power generation facility. Permanent employee vehicle miles traveled to and from the new facility are not expected to vary from that of the original facility. Existing preconstruction employee traffic patterns associated with the original power plant will remain unchanged. For additional information see the **TRAFFIC AND TRANSPORTATION** section of the FSA.*

**Industrial Development (Chapter 3, Article 7)**

Section 30260. Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

*The MBPP property totals 107 acres. The new power plant will occupy an approximate 14 acre portion of the property. Except for an off-site temporary construction lay down area proposed for Camp San Luis Obispo, a temporary satellite parking facility located south of the City of Morro Bay, and the construction of the offsite bike path(s), bridge and construction equipment access road, the new project will be constructed within the physical boundary of the existing power plant property. Offsite transmission facilities are already in place and have sufficient available capacity to accommodate the new power plant. The original power plant constructed in the 1950s is to be demolished after commercial operation of the new power plant starts.*

*Per §30253 of the Coastal Act, new development shall adhere to a suite of requirements that minimize risks to life and property in hazardous areas, assure structural stability and integrity, ensure compliance with State and local air pollution control law and regulations, minimize energy consumption and vehicular mileage, and protect special communities and neighborhoods that are popular visitor destination points for recreational purposes. As reviewed in the above paragraphs, the project involves several components that would ultimately enhance the City of Morro Bay's recreational features. Additionally, implementation of the recommended conditions of certification presented in this FSA would protect and/or minimize potential impacts to the community and its recreational attributes and coastal access. Consequently, the project would be consistent with the provisions of §30253.*

In addition to the above, it is noted that the proposed satellite parking area and construction staging area fall under the jurisdictional authority of the County of San Luis Obispo and are within the Coastal Zone. Please refer to the subsection entitled **SAN LUIS OBISPO COUNTY LAND USE PLANS AND ORDINANCES**, below, **for additional information regarding these project components.**

## Subdivision Map Act (Pub. Resources Code § 66410-66499.58)

The original MBPP property consisted of approximately 134 acres. In 1992 PG& E, the property owner filed a lot line adjustment request to create two parcels (Lot 1 – 107.35 ac., Lot 2 – 26.27 ac.). Lot Line Adjustment MBAL 97-239 was approved by the City of Morro Bay Subdivision Review Board on December 29, 1997. The Certificate of Compliance that was prepared for the approved lot line adjustment project was recorded in the Office of the Recorder for the County of San Luis Obispo on February 25, 1998 identified as Document No. 1998-010271. Duke Energy purchased Lot 1 in 1998 from PG&E. PG&E owns Lot 2.

The property recently purchased by Duke adjacent to the MBPP property known as the "Den Dulk" property consists of six legal parcels. In June 2000, six Certificates of Compliance for the "Den Dulk" property were filed and recorded by the City of Morro Bay (Duke, 2001a).

## State Tide and Submerged Lands Leasing (Pub. Resources Code § 6701-6706)

The outfall channel of the existing MBPP is located within a tideland grant lease. The outfall channel is within an area that formerly consisted of submerged lands that have subsequently been filled and is subject to the Public Trust for Navigation, Fisheries and Commerce (the "Trust") (City of Morro Bay 2000a). An Outfall Agreement (lease) was entered into between the existing facility's original owner (Pacific Gas and Electric Company's (PG&E) and the County of San Luis Obispo in November 1954 for a period of 50 years (City of Morro Bay 2000a). Upon the City's incorporation in 1965, the City became the leaser, in trust, of the tide and submerged lands within its jurisdiction, and is responsible for the administration of the project's Outfall Agreement. The project's existing Outfall Agreement expires November 15, 2004. To continue operation of the outfall channel after November 15, 2004, a new Outfall Agreement would be required.

The City and Applicant are currently negotiating a legally binding Agreement to Lease and intend to finalize it after the public release of the FSA for the project. The Draft Agreement to Lease references a new Outfall Agreement. The Draft Outfall Agreement addresses the terms of the Agreement, default provisions, and the amount of rent.

Assuming that Duke and the City are successful in negotiating a new Outfall Agreement, the proposed project would be in compliance with State requirements for the leasing of tide and submerged lands. To ensure project compliance with these requirements and Public Resource Codes § 6701-6706, Staff has incorporated a proposed condition of certification requiring the applicant to acquire a new Outfall Agreement prior to November 15, 2004 or the start of commercial operation, which ever occurs first.

## LOCAL

## City of Morro Bay General Plan

The following sections provide an analysis of the proposed project's consistency with the City's adopted General Plan. The City additionally has an adopted CLUP certified by the California Coastal Commission. In several instances the Policies and Programs of the City's General Plan are duplicative of the CLUP. To avoid redundancy, the consistency analysis of the CLUP indicates the General Plan's Policies and Programs that are identical.

Staff analysis of compliance with each applicable requirement has been italicized below the "finding" and presented below the summary of each requirement.

## Land Use, Open Space and Conservation Elements

### General Land Use Policies

Objective 1: Improve the quality of life for all Morro Bay citizens, especially in regard to health care, housing, employment, recreation, business and education.

*The proposed project would provide the City with a suite of public improvements including, but not limited to, land dedications for public recreational and coastal access, additional bike and pedestrian bike pathways, the Embarcadero foot bridge, conservation easements, visual and aesthetic improvements associated with the facility itself and the seawater intake structure, and additional revenues. The proposed project would improve the overall quality of life for the community Morro Bay. Implementation of the conditions of certification associated with this FSA would ensure consistency with this objective.*

Objective 2: To preserve the unique coastal fishing village image by ensuring that new development must be sensitive to its surroundings, the environment within which it occurs and the overall community image.

*The proposed project is considered a "replacement," or "modernization" of the existing facility and is not new development. However, it is noted that the project includes a reduction in visual and aesthetic impacts associated with the existing MBPP and improvements to the seawater intake structure to more fully blend with the harbor's fishing village image. In addition, through Applicant commitments and implementation of the conditions of certification associated with this FSA, impacts to the community and environment would be minimized.*

Policy LU-15: The present human scale and leisurely, low intensity appearance of Morro Bay should be maintained through careful regulation of building height, location and mass.

*The proposed project would be substantially smaller in scale than the existing MBPP. The City's Zoning Ordinance provides for a maximum structure height of 30-feet in the Coastal-Dependent Industrial district (Zoning Ordinance, Table 17.24.150). The 30-feet limit in the M-2 zone is for new construction only and*

*does not apply to "replacement or repair of existing structures" (Zoning Ordinance, Table 17.24.150). The proposed project is considered to be a "replacement" of the existing facility, and therefore, is consistent with the City's building regulations.*

*Modification to the seawater intake structure would exceed the 25-feet height requirement associated with the "Waterfront Master Plan." However, one of the purposes of the proposed modification is to more fully blend with the harbor's fishing village image. The Applicant and City have worked cooperatively to develop design plans that are agreeable to both parties, and the City of Morro Bay has expressed support of the modifications.*

Program LU-17.1: Natural terrain, vegetation, drainage course, and rock outcroppings shall not be disrupted as a result of development, unless found to be necessary to protect the health, safety and welfare of the community.

*Design of the proposed project, and implementation of the conditions of certification of this FSA would avoid unnecessary disturbances to natural terrain features to the extent feasible. The project would be consistent with these programs.*

Policy LU-19: The City should do everything it possibly can to keep the fishing village atmosphere and balance the mixture of the land uses on the Embarcadero.

*The proposed project involves re-furbishing of the facade of the seawater intake structure. Proposed modifications would improve the existing structure's visual appearance and allow it to more fully blend in with the harbor's fishing village image. The proposed project would be consistent with this policy.*

Program LU-20.3: The remaining waterfront sites should be reserved for land uses that require water access. Other land uses should only be permitted as joint uses thereof. (LUE 47-48, See Harbor section).

*As proposed, the project is a coastal dependent facility that relies upon seawater intake from Morro Bay, and is considered a replacement of an existing use. The project would be consistent with these programs and policy.*

Program LU-22.4: No development or use or clearing of natural vegetative land shall occur in City areas without the review and approval of the City.

*The proposed project does not involve the expansion of the existing facility and does not involve installation of new service infrastructure that could induce growth. All activities involving the removal of natural vegetation shall be mitigated to a level of less than significant through implementation of the conditions of certification found in the **BIOLOGICAL RESOURCES** section of this FSA. The proposed project would be consistent with this policy and program.*

Program LU-24.1: Environmental reviews will be conducted to determine growth inducing impacts on any new subdivision, or development of properties over one acre in size. Those forms of development that occur more incrementally on smaller parcels shall be evaluated annually by the City to determine the cumulative effect of such trends.

*Environmental review of the proposed project is currently being accomplished through the Energy Commission's permit review and approval process. The proposed project and its regulatory processing are consistent with this policy and program.*

Industrial and Energy Related Development Objectives:

- To improve the economic base of Morro Bay by promoting environmentally acceptable industry. The fishing industry is an important aspect of Morro Bay and therefore every reasonable effort should be taken to accommodate its needs for improved and expanded facilities.
- To provide for a moderate industrial base comprised of clean and non-polluting industries.
- To protect the City against any of the potential adverse impacts associated with energy development and to promote appropriate energy development.

*Implementation of the conditions of certification associated with this FSA, in concert with the terms and conditions of other regulatory permits and approvals, would ensure consistency with these objectives and minimize potential environmental impacts, including effects associated with pollution.*

*The project would promote continued energy development replacing 1950's and 1960's vintage facilities with modern, state of the art equipment, and therefore would be consistent with these objectives.*

Policy LU-38: Small, high-quality, non-polluting industrial development should be encouraged. Such should be an extension of existing development of this nature and emphasis should be placed on providing for the needs of harbor and fishing industry land uses.

*The proposed project is a replacement of the existing MBPP. Provided that the project implements and meets all applicable regulatory standards and regulatory conditions pertaining to pollution, the project would be consistent with this policy.*

Program LU-40: Measures shall be taken by the City to protect against potential adverse environmental impacts created by energy development.

*Under the City's Land Use Map, which serves as the combined map for the General Plan and CLUP, the MBPP property as a whole is designated General Industrial and Coastal Development Industrial with and overlay Planned Development and Interim Open Space. Also on the property is an Environmentally Sensitive Habitat designation. City attorneys have determined*

*that, within the context of the City's land use planning and zoning documents, Coastal-Dependent Industrial and Coastal Development Industrial are synonymous (Sheppard, Mullin, Richter & Hampton, 2001). The design of the proposed facility is dependent upon seawater intake from Morro Bay for cooling purposes. The CLUP establishes priorities for property designated Coastal-Dependent Industrial.*

*Implementation of the conditions of certification associated within this FSA would result in protection of environmental resources.*

Program LU-54.1: Construction of shoreline structures that would substantially alter existing landforms shall be limited to projects necessary for: protection of existing development; new development must ensure stability without depending on shoreline protection devices; public recreation areas; other coastal-dependent uses. Shoreline structures include revetments, breakwaters, groins, harbor channels, seawalls, cliff-retaining walls, and other structures that alter natural shoreline processes.

*The proposed project does include modification of the existing seawater intake structure located in Morro Bay Harbor, but does not involve the construction of any new shoreline structures that would substantially alter existing landforms. Refurbishing of the seawater intake structure's facade is intended to, among other things, conform to the City of Morro Bay's aesthetic policies, goals and objectives to create a fishing village image. Although the height of the structure does not conform with the City of Morro Bay's Waterfront Master Plan's height limitation (25 feet), it is a coastal-dependent facility and therefore can be found consistent with the qualifier of this policy that allows for construction of facilities that are coastal-dependent uses. It is noted that the City of Morro Bay has indicated support of this project feature. The California Coastal Act, §30251 requires that proposed development should be compatible with the surrounding area and enhance and restore visual quality where feasible. The proposed remodeling would be consistent with this section of the Coastal Act.*

Program LU-62.2: Development on or near the harbor or beaches shall take measures to reduce the abusive effects of public use of these resources, such as providing walkways, view decks, stairways, waste disposal containers, and devices necessary to control public access to sensitive environmental features.

*The proposed project involves new development near the harbor and beach. The project proposes to modify the existing seawater water intake structure located in the harbor. This modification includes a new facade that would reflect a "fishing village" architecture, thereby enhancing the overall visual quality of the harbor. The public would not have access to the seawater intake structure.*

*The project also includes: (1) the acquisition of the former "Den Dulk" property which contains environmentally sensitive dune habitat. The applicant and the federal and state resource agencies are discussing the installation of signage and fencing of the sensitive areas; (2) three new bike path segments; (3) the construction of a temporary access road (for project construction, demolition, and*

*maintenance activities) that will allow access to the MBPP from the extension and re-alignment of the Embarcadero and will not impede the City's future plans to relocate Coleman Drive behind Coleman Park; (4) a bridge over Morro Creek to facilitate and enhance public coastal access and recreation.*

Program LU-64.1: The City will determine the commercial fishing and coastal-dependent needs and examine the feasibility of accommodating said needs for major waterfront improvements on the "Den Dulk" and Coleman park properties including boat launching ways, moveable ways, wharfsides, hoists and dry dock storage. All such uses shall be low scale and out of the viewshed from the Embarcadero to Morro Rock and the Pacific Ocean. Landside development shall be kept to a minimum and shall not include principal structures.

*The proposed project includes dedication of the "Den Dulk" property including the area know as Coleman Park to the City. These dedications support and are consistent with this policy and program.*

Policy LU-77: Mixed Use Area H: Within this area, uses allowable under any of the applicable land use and zoning designations are encouraged as primary uses of the area. Open Space uses or commercial fishing support facilities may be proposed whether singly or in a mixed use pattern.

*The "Den Dulk" property is shown on the City of Morro Bay Land Use Map, revised February, 1997 as Open Space/Recreation and Neighborhood Commercial with an overlay Planned Development. The Applicant has purchased this property and has committed to dedicating it and Coleman Park for the purposes of recreation and public coastal access. Portions of the property will also serve as a protection area for dune scrub habitat.*

## CITY OF MORRO BAY COASTAL LAND USE PLAN

## Chapter III: Shoreline Access and Recreation

CLUP Policy 1.01: For new developments adjacent to the bayfront or ocean, public access from the nearest public roadway to the shoreline and along the coast shall be provided except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. For new development on properties adjacent to the mean high tide line, lateral easement dedications shall be from the mean high-tide line to the first line of vegetation (General Plan Policy AR-2).

*The proposed project is not considered new development; it is considered a replacement of an existing use. However, it is noted that project components include land dedications for public coastal access, the development of three new bike path segments per the City's long-term development plans, and a new pedestrian and bike bridge over Morro Creek. All of these features are consistent with this policy.*

Policy 1.02: No unrelated development shall be permitted in publicly-owned recreational areas except energy conduits and pipelines and other necessary ancillary equipment and related fixtures to serve coastal-dependent industrial uses when no alternate route or location is feasible (General Plan Policy AR-3).

*The proposed project is a coastal-dependent facility that requires infrastructure under and adjacent to recreational areas. Due to its coastal-dependent nature, the project would be consistent with this policy.*

Policy 1.07: Consistent with Coastal Act Section 30211, development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization. Such access shall be protected through permit conditions on permitted development, including easements, dedications or continued accessway maintenance by a private or public association. Existing identified trails or other access points shall not be required to remain open, provided that they are consolidated or relocated to provide public access on the same site and provide the same or comparable access benefits as existed before closure and meets all other applicable access and recreation policies of this element (General Plan Policy AR-8).

*As discussed above under the LORS impact section entitled **CALIFORNIA COASTAL ACT (PUB. RESOURCES CODE § 30000 ET. SEQ.)**, the project would be consistent with this policy.*

Policy 1.17: When PG&E property is needed for coastal-dependent industrial uses, a vertical (east-west) public access path for pedestrians and bicyclists no less than 10 feet in width shall be required as a condition of development, consistent with public safety needs and the need to protect the operations of the new facilities. A location paralleling the creek shall be allowed, provided the path does not encroach into Environmentally Sensitive Habitat areas or buffer zones. (General Plan Policy AR-18)

*To help promote public access and recreation adjacent to the project site and satisfy Public Resources Code section 30210-30214 and 25529, the applicant has agreed to provide three new bike path segments consisting of Class I and Class II paths. The Class 1 bike paths are 11 feet in width as shown on the "Duke Energy Construction Access Schematic Road Improvements, dated August 7, 2001 prepared by RRM Design Group.*

Policy 1.20: In reviewing the development proposals along the bay front, the City shall apply the following standards and make the necessary findings to assure consistency with LUP and Chapter 3 Coastal Act Policies:

Each application for a new development or lease which would result in an increase in intensity of use, change of use, or expansion of an existing structure seaward or an increase in height shall include a physical provision for continuous lateral access along the bay front portion of the parcel. Each applicant for development as defined in part (1) above shall be required to provide lateral access unless the applicant can demonstrate based on engineering analysis that all or a portion of such access is physically infeasible and there are no design

alternatives capable of overcoming topographical or site constraints that jeopardize public safety and fragile coastal resources.

Applications for coastal-dependent development where provisions of continuous lateral access would conflict with daily operations of the facility shall be conditioned by the City to make maximum provisions for public viewing areas and/or walkways in suitable locations on the development site. (General Plan Policy AR-20). Additionally, the City's Access and Recreation Policy AR-6 requires that new parking is required for all new or improved vertical (north/south) access whenever feasible and consistent with site constraints to ensure use of the access way.

*The proposed project includes the development and improvement of three segments of a bike and pedestrian path around the project property, a pedestrian/bicycle bridge of Morro Creek, and a new east-west bike path between Highway 1 and the Embarcadero. The proposed bridge design spans the creek with its footings outside of Environmentally Sensitive Habitat areas or their related buffer zones.*

*The proposed project additionally includes re-alignment of the Embarcadero as shown in the "Duke Energy Construction Access Schematic Road Improvements, dated August 7, 2001 prepared by RRM Design Group. The plan reflects design plans in the City's Waterfront Master Plan and "Waterfront Boardwalk and Circulation Improvements – Project Feasibility Study" (City of Morro Bay, 2000c).*

## Chapter VII: Energy/Industrial Development

D. Existing Industrial and Energy Related Developments: This section of the CLUP inventories the existing industrial and energy related activities and facilities within the Coastal Zone, as well as proposed plans to expand or modify these facilities. Figure 14 of the CLUP shows the location of these facilities. It must be realized that due to the dynamics of the energy situation, projecting energy demands and the necessary facilities over a long period is extremely difficult. Currently, none of the facilities discussed here are projecting expansion and when such expansions would be proposed, they will require an amendment to the Coastal Plan.

*The term "expansion" is used throughout the CLUP in reference to energy facilities associated with the project property. Definition of the term is important because the CLUP places a limit on expansion in General Policy 5.0, and the CLUP text (but not policy) suggests that expansion of energy facilities triggers the need for a CLUP amendment (Sheppard, Mullin, Richter and Hampton, 2001).*

*For the purposes of the City's CLUP, it has been suggested by City attorneys that the term "expansion" may be best understood by reviewing a description of the "long range expansion plans" for the project site as originally envisioned in the CLUP (Sheppard, Mullin, Richter and Hampton, 2001). The CLUP states that "long range expansion plans for this facility include the construction of two additional steam turbine generators to the existing four generators [sic]. This addition would involve the construction of two additional exhaust stacks plus*

*additional facilities for cooling the ocean water. One additional generator would cause the discharge water to rise about [sic] allowable levels. This would require additional cooling towers to bring the water back to an allowable temperature for discharge."*

*"Expansion," at the time the CLUP was adopted, referred to an in-kind addition to what was already located at the project site. If PG&E wanted to produce more power, it would have had to construct cooling towers and more exhaust stacks. Expansion did not mean a reduction in square footage, height or mass, nor did it refer to a reduction in the on-site area used for energy development (Sheppard, Mullin, Richter and Hampton, 2001).*

*Depending on the construction schedule, construction of the proposed facility may temporarily expand the overall facility size until the existing facility is demolished. Total developed square footage, the overall footprint of the developed property on the site, and overall building mass would increase if the two facilities were side-by-side for any given period of time. While temporary, simultaneous operation of both the existing project and the proposed project could effectively constitute an "expansion," a limited period of time is not intended to be covered by either the plain meaning of the term "expansion" or as the term is used throughout the CLUP (Sheppard, Mullin, Richter and Hampton, 2001). If, however, the existing project and the proposed project are operated simultaneously (with seven functioning exhaust stacks) or if both facilities occupy the property for an extended period of time, it would constitute an "expansion" as that term is used in the CLUP.*

*The proposed project's "Project Description," as analyzed for the purposes of this FSA and, ultimately, the Energy Commission's certification, requires demolition of the existing facility. Demolition of the existing facility is also proposed by the City as part of the Draft Agreement to Lease. As such, long-term simultaneous operation of the two facilities cannot occur without subsequent environmental review and approvals. Also, many other sections of CLUP/GP appear to anticipate this type of project without need for amendments. Only one section doesn't; it is inconsistent with the others.*

*The proposed facility would generate an additional 198 MW of power in comparison to the existing facility. There is nothing in the City's planning documents, including the CLUP, General Plan and Zoning Ordinance that would lend support to an interpretation of the term "expansion" to include or refer to an increase in generating capacity only. The new facility would have fewer physical impacts than the existing facility. Interpreting the term "expansion" to include an increase in generating capacity, without a corollary increase in physical proportions of the facility and an increase in physical impacts, is inconsistent with the manner in which the term is used throughout the CLUP (Sheppard, Mullin, Richter and Hampton, 2001). Consequently, the proposed project is not an "expansion" and would not be in conflict with the CLUP or require an amendment to it.*

*California Energy Commission Feasibility Report: According to a Energy Commission report entitled "Feasibility of Expansion of Existing Coastal Zone Power Plants," the [existing] power plant site is the minimal area adequate for expansion of small facilities whose location would not further affect the unique view corridor of Morro Rock; the report indicates that conversion is unfeasible due to a variety of factors. The study does conclude that expansion is feasible for a small-scale facility utilizing either steam turbine, the existing generating system, combined cycle, or combustion.*

*The referenced Energy Commission report concluded that an increase in generating capacity of less than 400MW constituted a "small" project (Duke, 2000a). The proposed project would only increase the existing facility's capacity by 198 MW.*

Policy 5.01: The City shall designate the existing PG&E parcel and the Chevron pier parcel as coastal-dependent industrial uses. Any proposals for energy development industrial uses within zones designated for general industrial development will require an amendment to the land use plan consistent with section 30515 of the Coastal Act. Power Plant expansion on PG&E owned property shall have priority over other coastal-dependent industrial uses. Power Plant expansion shall be limited to small facilities whose location would not further affect the views of Morro Rock from State Highway 1 and high use visitor-serving areas, consistent with Policy 12.11. (General Plan Policy LU-39.1).

Policy 5.04: In the areas designated for industrial uses, coastal-dependent uses shall have priority over non-coastal-dependent uses. (General Plan Program LU-39.4)

*Under the City's Land Use Map, which serves as the combined map for the General Plan and CLUP, the MBPP property as a whole is designated General Industrial and Coastal Development Industrial with and overlay Planned Development and Interim Open Space. Also on the property is an Environmentally Sensitive Habitat designation. The term Coastal Development Industrial is not defined in the General Plan, CLUP or City Zoning Ordinance (it appears in the legend of the Land Use Map only); however, Coastal-Dependent Industrial is defined in all of the City's land use planning documents. As previously noted, attorneys for the City have determined that, for the purposes of the City's land use planning documents, Coastal-Dependent Industrial and Coastal Development Industrial are synonymous (Sheppard, Mullin, Richter and Hampton, 2001).*

*The proposed project involves the replacement of a Coastal-Dependent use within the Coastal Development Industrial designation, and therefore, would not require an amendment to the CLUP or General Plan. As indicated above, the "modernization" or "expansion" is considered "small" per the Energy Commission's "Feasibility of Expansion of Existing Coastal Zone Power Plants" report since it involves less than a 400 MW capacity increase.*

## City of Morro Bay Zoning Ordinance

Staff analysis of compliance with each applicable requirement has been italicized below the "finding" and presented below the summary of each requirement.

Municipal Code § 17.24.150: Thermal power plant and support facilities, which must be located on or adjacent to the sea in order to function (may be allowed with the appropriate permits and licenses). A Conditional Use Permit is required. A thirty feet height limit for all new construction is required.

> *The applicant has filed and Application for Certification (AFC) with the California Energy Commission which under the Warren-Alquist Act has the exclusive permitting authority for the siting of 50 MW or greater thermal power generation facilities within the State of California.*

Municipal Code § 17.40.030(C): Permitted Uses. Subject to the granting of a Conditional Use Permit for conceptual and precise plan of development: (1) any principal or conditional use which is allowed by the primary zoning district is a permitted use.

Municipal Code § 17.40.030(D): (General Development Standards): The Standards for development within the PD Overlay Zone shall be those of the base zoning district, provided however, that the standards may be modified by the Planning Commission or City Council as they relate to: building heights; yard requirements; and minimum lot area for dwelling units in the density range provided that any specific design criteria of the General Plan and Coastal Land Use Plan, applicable to the property, is not exceeded. For those areas of the provisions of housing for the elderly or low/moderate income families, provisions of extraordinary public access, provisions for protecting Environmentally Sensitive Habitat (ESH) areas, but in all cases these provision shall meet the Coastal Land Use policies.

> *The existing project property is currently zoned Coastal-Dependent Industrial (M-2), with Planned Development and Interim Use overlays. These designations are the same as under the CLUP, but have slightly different meanings under the Zoning Ordinance. M-2 is the primary zone district for the property and is defined in the Zoning Ordinance as follows: "The purpose of the Coastal-Dependent Industrial (M-2) district is to provide districts for industrial development wherein manufacturing and other industries which require a site on or close to the ocean or harbor can locate and operate while maintaining an environment minimizing offensive or objectionable noise, dust, odor or other nuisances, all well designed and properly landscaped (Municipal Code § 17.24.150).*
>
> *Thermal power plants are conditionally permitted uses within the Coastal-Dependent Industrial (M-2) District. Table 17.24.150 of the Zoning Ordinance states that a conditionally permitted use is a "new or expanded use of land or a building, authorized to be constructed and/or established through the issuance of an approved conditional use permit (CUP), pursuant to Chapter 17.60" (Municipal Code § 17.12.664).*

*For a CUP within the Coastal Zone, the City normally proceeds with a parallel Coastal Development Permit (CDP) process. CDPs are appealable to the Coastal Commission (California Public Resources Code § 30600.5(d)). Power plants are exempt from CDP requirements pursuant to California Public Resources Code § 30600.5(a) (California Coastal Act).*

*There are aspects of the proposed project (the Morro Creek bridge, Outfall Area, seawater intake structure, and construction road) that fall within the original jurisdiction of the Coastal Commission; however, under the Warren-Alquist Act, site certification from the Energy Commission preempts both state and local (CUP and CDP) permit authority with respect to thermal power plant projects that are 50 MWs or greater.*

*The City's Zoning Ordinance provides for a maximum structure height of 30-feet in the Coastal-Dependent Industrial district (Zoning Ordinance, Table 17.24.150). The 30-feet limit in the M-2 zone is for new construction only and does not apply to "replacement or repair of existing structures" (Zoning Ordinance, Table 17.24.150). The proposed project is considered to be a "replacement" or "modernization" of the existing facility, and therefore, is exempt from this requirement.*

*The project property has a Planned Development (PD) zone overlay. The purpose of the PD overlay is to "provide for detailed and substantial analysis of development on parcels which, because of their location, size or public ownership, warrant special review" (Municipal Code § 17.40.030.A). The Zoning Ordinance for the PD overlay also imposes consistency requirements: "new development projects requiring discretionary permits must be consistent with the design guidelines contained in Chapter 5 of the City of Morro Bay Waterfront Master Plan, where applicable, and with the General Plan and CLUP (Municipal Code § 17.40.030.D., E).*

*The Morro Bay Waterfront Master Plan describes four areas along the waterfront of Morro Bay Harbor. Duke's cooling water intake structure is located within Area #2 T-Piers/Fisherman's Work Area, which is described in the Plan as the area containing the cooling water intake structure and cover to the intersection of the Embarcadero at Beach Street. Lands owned by Duke Energy beyond the four defined areas in the Waterfront Master Plan are not subject to the Plan's requirements.*

*As addressed within the LORS subsection entitled* ***CITY OF MORRO BAY WATERFRONT MASTER PLAN****, Staff has concluded that the MBPP facility itself is not subject to the guidelines of Waterfront Master Plan, as it lies outside of the boundaries of the Master Plan's Area 2. Only the project's seawater intake structure is subject to the Master Plan's design guidelines (Chapter 5). However, the General Plan and CLUP is applicable to all components of the proposed project that fall under the City's jurisdiction.*

*Development standards for projects within the PD overlay zone are those of the base zone district. The MBPP property's base zone district is Coastal-*

*Dependent Industrial. Building standards in the M-2/PD zone may be modified only upon approval of a finding that "greater than normal public benefits may be achieved by such deviations" (Municipal Code § 17.40.030.D). Those benefits may include improved or innovative site and architectural design, greater public or private usable open space, extraordinary public access or protection of Environmentally Sensitive Habitat areas. In all cases they must meet applicable coastal land use policies.*

*As referenced above, Staff has concluded that the MBPP facility itself is not within the planning area ("waterfront area") of the Waterfront Master Plan. Additionally, Staff has concluded that the: (1) replacement of the plant's existing 450 feet high stacks with 145 feet high stacks; (2) remodeling of the seawater intake structure's facade; (3) the constructing of three additional bike path segments; (4) the building of the Morro Creek pedestrian and bike bridge; (5) the realignment and extension of the Embarcadero; (6) the dedication of the "Den Dulk" property and Coleman Park to the City for recreation and public coastal access; and (7) the dedication of conservation and public use and access easements are key project components that cumulatively reflect a "greater than normal public benefit" and meet the intent of Municipal Code § 17.40.030.D.*

Municipal Code §17.48.200 requires specific findings regarding the architectural treatment and the general appearance of all proposed buildings, structures and open areas. Municipal Code §17.58.030.D.3, pertaining to coastal development located between the nearest public road and the sea or the shoreline of any body of water, requires a specific finding that such development is in conformity with the public access and public recreation policies of Chapter 3 of the California Coastal Act.

*Attorneys for the City have concluded that a CUP requirement applies to thermal power plants (i.e. the proposed project) in the Coastal-Dependent Industrial zone. Two sources are referenced: (1) Table 17.24.150, which requires that thermal power plant operators obtain a CUP in order to operate; and, (2) the PD overlay requirements, which allow a conditionally permitted use to be transmuted into a permitted use by obtaining a CUP for a Concept and/or Precise Development Plan (Municipal Code § 17.40.030).*

*Because of the PD overlay zone requirements, the City's attorneys have concluded that an approved Concept Plan is required for the new facility because the Applicant proposes development on a lot that exceeds one acre in size (Municipal Code § 17.40.030.F). Following approval of a Concept Plan, a Precise Development Plan is required (Municipal Code § 17.40.030.G).*

*Subject to the granting of a CUP for a Concept Plan and/or a Precise Development Plan, the conditional use of operating a power plant becomes a permitted use (Municipal Code § 17.40.030.C). The City would have to be able to make consistency determinations concerning standard CUP findings requirements under Municipal Code §17.60.030; "greater than normal public benefits" findings under Municipal Code § 17.40.030.D; compliance with Design Guideline requirements of the Waterfront Master Plan; compliance with*

*architectural treatment requirements under Municipal Code § 17.48.200; and compliance with coastal access and recreation under Municipal Code § 17.58.030.A.3 (Sheppard, Mullin, Richter & Hampton, 2001). As outlined above, the MBPP facility itself is not considered to be within the planning area of the Waterfront Master Plan, and several of the project's modifications, improvements, and dedications collectively provide a significant public benefit.*

*A CUP for the project property as it is currently zoned is a "permit ... for such use of the site and related facilities." Such a permit is, however, subsumed by the Energy Commission's exclusive siting authority under California Public Resources Code § 25500 (Warren-Alquist Act). Likewise, the CUP requirement, imposed through the Concept Plan/Precise Development Plan process, is a "permit ... for such use of the site and related facilities " and is therefore also pre-empted by the Energy Commission's siting jurisdiction. Site certification from the Energy Commission over-rides the CUP requirement from both sources: Table 17.24.150 (CUP required in order to operate), and the PD overlay requirement (CUP for Concept and/or Precise Development Plan) (Sheppard, Mullin, Richter & Hampton, 2001).*

*In addition, it is noted that the Applicant and the City are currently in the process of negotiating a Draft Agreement to Lease. They have both confirmed that it will be finalized following the Energy Commission's review process. The Draft Agreement to Lease includes numerous project requirements which, upon execution of the Agreement, would become legally binding.*

**Den Dulk Property**

As part of the proposed project the Applicant has purchased the "Den Dulk" property and has committed to dedicating it and Coleman Park to the City. This property is undeveloped, approximately 7.2 acres in size, and located immediately west of the MBPP property. The purpose of the purchase is to "further improve coastal access, avoid potential development of sensitive habitat, provide a buffer between the new plant and public uses, and may facilitate the City of Morro Bay's implementation of its Waterfront Master Plan" (Duke, 2000a). Improved coastal access would also be achieved via proposed bikeways and extension and re-alignment of the Embarcadero (Duke, 2001a). The City and the Applicant, through negotiation of their Agreement to Lease will identify final development plans, the dedication of land, and other items specific to the property.

The applicant has been in consultation with the California Department of Fish and Game regarding placing portions of the property under a habitat conservation easement that includes limiting public access in order to protect the sensitive dune scrub habitat on the site.

A portion of the property contains an area known as "Coleman Park" which potentially with on-site improvement could serve as a public use and be used to address the applicant's "public use land" requirement under the Warren-Alquist Act as per section 25529 and potentially "public access" requirement under the Coastal Act as per section 30212.

## Temporary Craft Parking Area

The proposed temporary craft parking area involves an approximate 5 acre portion of the 107 acre MBPP property. The proposed craft parking area is bordered to the north by Morro Creek and to the west by Willow Camp Creek.

The craft parking area as shown on the Morro Bay Land Use Map revised in February 1997 is within the Coastal Development Industrial general plan designation and borders the Environmentally Sensitive Habitat (ESH) designation.

Though Coastal Land Use Plan (CLUP) Policy 11.6 states that a minimum 100-foot buffer shall be required from sensitive habitat areas, CLUP Policy 11.14 provides more specific guidance for stream habitat. The MBPP property is located on land within the City of Morro Bay, an urban area of San Luis Obispo County.

CLUP Policy 11.14 is applicable. It states that streams within urban areas are required to have a minimum buffer strip of 50 feet. If the applicant can demonstrate that the implementation of the minimum buffers on previously subdivided parcels would render the subdivided parcel unusable for its designated use, the buffer may be adjusted downward only to a point where the designated used can be accommodated. However, in no case shall the buffer be reduced to less than 25 feet for urban areas. The lesser setback is to be established in consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game and shall be accompanied by adequate mitigations.

U.S. Fish and Wildlife and/or the California Department of Fish and Game may require a greater buffer due to biological concerns for the parking area from the streams. For this discussion refer to the **BIOLOGICAL RESOURCES** section of the FSA. In any case, CLUP Policy 11.14, is applicable under local land use LORS and as such the project owner has proposed a 50 foot buffer area around the craft parking area.

### San Luis Obispo County Land Use Plans and Ordinances

The proposed temporary satellite parking area and construction staging area are located within the County's Estero Area Plan planning area. The Estero Area Plan provides the definitions for the planning area's land use categories and combining designations and their respective planning standards. These standards are mandatory requirements for development (San Luis Obispo County, 1996a). The Estero Area Plan is implemented by the County's Coastal Zone LUO, which provides specifics regarding: administration; permitting; design, development, operational and combining designation standards; special uses; non-conforming uses; and enforcement.

Chapter 8 of the County's Coastal Zone LUO provides for a suite of special uses within the County's Coastal Zone. The purpose of Chapter 8 is "to establish special additional standards for certain land uses that may affect adjacent properties, the neighborhood, or the community even if the uniform standards of Chapter 23.04 and all other standards of this title are met. Such uses are defined "S" and "SP" uses by Coastal Table O, Chapter 7, Part I of the Land Use Element. It is the intent of this chapter to establish appropriate standards for permit processing, and the location, design, and operation of special uses, to avoid their creating unanticipated problems or hazards,

and to assure they will be consistent with the General Plan" (County Ordinance §23.080.010) (San Luis Obispo County, 1996b).

Under Chapter 8 and Table 0 of the Land Use Element, the proposed temporary satellite parking facility and staging area are allowable uses under Special Use 17 (County Code § 23.08.240 – 23.08.248).

County Code § 23.08.240 defines temporary uses as land uses and activities of a temporary nature as defined by the Land Use Element under temporary construction yards, temporary dwellings or offices and temporary events (San Luis Obispo County, 1996b).

County Code § 23.08.241 provides the general standards for temporary uses and states that they "may include construction of permanent structures, grading or other alteration of a site except the cutting of grasses or weed, only when the temporary use occurs in conjunction with a construction project authorized by an approved land use or grading permit."

County Code § 23.08.244 defines a temporary off-site construction yard as "A storage yard for construction supplies, materials or equipment for temporary use during a construction project (which may include a temporary office pursuant to Section 23.08.246d) is allowable on a site not adjacent to the construction site subject to the provisions of this section. The temporary storage of construction materials on or adjacent to a construction site is subject to Section 23.08.024a (Accessory Storage – Building Materials and Equipment).

County Code §23.08.244(d) requires that a temporary construction yard be restored to its original vegetative and topographic state within 30 days after completion of construction. County Code §23.08.246(c)(d) allows temporary construction offices on the site until construction is completed.

Per the County's Coastal Zone LUO, a temporary construction yard may be authorized though approval of either a Development Plan of Minor Use Permit. Since all of the satellite parking area and portions of the construction staging areas fall within the Coastal Zone, Coastal Commission review and approval is also necessary. However, per §25500 of the Warren-Alquist Act, the Energy Commission review and approval process pre-empt local land use requirements. Consequently no permit is required from the County, since the local permit review has been incorporated into the Energy Commission's certification process.

The proposed sites do not involve the use of prime farmland, are temporary in nature, and would be restored to their original state following construction of the MBPP. The sites will involve integral uses in the construction of a power generation facility and therefore come under the Energy Commission's certification process, and meet the County's criteria necessary for Special Use 17. Consequently, their use would be consistent with County land use plans and ordinances.

## COMPATIBILITY WITH EXISTING AND PLANNED LAND USES

The proposed project would be located on the MBPP property. The property has been use since1955 for the purpose of electrical power generation. The project represents continued use of a site committed to Coastal-Dependent Industrial use, rather than the introduction of new industry in a non-industrial area of the City. The proposed MBPP is consistent with the City's land use designations and zoning and would not constitute a change in the current development pattern of the City, as established by the City's adopted CLUP and General Plan. Furthermore, the project is compatible with the existing industrial character of an immediate surrounding land use, a PG&E substation.

Construction impacts, such as increased dust, noise, and traffic may affect land uses within the vicinity of the project. With mitigation, noise and traffic impacts would be reduced to a less than significant level. Please see the **NOISE**, **AIR QUALITY**, **PUBLIC HEALTH**, **TRAFFIC AND TRANSPORTATION**, and **VISUAL RESOURCES** sections of the FSA.

Construction-related activities may impact coastal access and recreation within the project area due to noise, traffic, and visual effects. These impacts would likely be the greatest during the project's peak construction period. Peak construction (greater than 100 workers on site at any given time) would occur over a 14 month period, between construction months 5 and 18 (Duke Energy, 2000). However, due to the temporary nature of these construction-related activities, and the final improvements to coastal access and recreation also proposed by the project, the construction-related impacts are considered less than significant.

Since the power generating facility itself would be located entirely within the boundaries of the existing MBPP property, the proposed project would not disrupt or physically divide an established community, convert agricultural land to a non-agricultural use, or significantly impact sensitive lands or open space.

The proposed project additionally includes the development or improvement of three pedestrian and bike path segments surrounding the MBPP property, realignment and extension of the Embarcadero, a pedestrian/bicycle bridge over Morro Creek, a façade for the seawater intake structure and the dedication of the "Den Dulk" property including Coleman Park to the City. The Den Dulk dedication will enhanced public coastal access, use, and serve as a facility buffer. These project components have been developed in consultation with the City. During construction of these project components there may be temporary impacts associated with increased dust, noise, and traffic that may affect land uses within the project vicinity, as well as temporary impacts to biological resources. With mitigation, these impacts would be reduced to an insignificant level (please refer to the **AIR QUALITY**, **NOISE**, **BIOLOGICAL RESOURCES**, and **TRAFFIC AND TRANSPORTATION** sections of the FSA).

Staff has found that construction and maintenance of these off-site project components would not cause unmitigated, significant adverse noise, dust, public health hazard or nuisance, traffic, or visual impacts on nearby land uses.

The AFC identifies twelve sensitive receptors and several residential developments proposed within a one mile radius of the project site (Duke, 2000a, 2001a). The closest residential development was established following construction and start-up of the existing MBPP project in 1955. Due to improved technology and equipment associated with the proposed project, in conjunction with implementation of proposed mitigation, a net reduction in operational impacts of the facility would occur. Please see the **NOISE**, **AIR QUALITY**, **PUBLIC HEALTH**, **TRAFFIC AND TRANSPORTATION**, and **VISUAL RESOURCES** sections of the FSA.

The proposed satellite parking facility located between State Highway 1 and Quintana Road is within a rural area that is not typically subject to high traffic volumes or other activities. Use of the facility during the 14-month peak construction period would likely create a nuisance to nearby residents and the veterinary clinic. These impacts would be temporary in nature.

The proposed construction staging area would be located within an area that has been previously developed. Surrounding land uses have been used for similar types of activities and would be compatible with the proposed use. Consequently, no direct impacts are anticipated to occur. Please see the **COMPLIANCE WITH LORS** subsection entitled **SAN LUIS OBISPO COUNTY LAND USE PLANS AND ORDINANCES** for additional information regarding land-use related issues associated with this project component.

## CUMULATIVE IMPACTS

In addition to the MBPP, there are 16 proposed projects within a five mile radius of the MBPP property (Duke, 2001a). In comparison to the proposed MBPP, these projects are relatively small in scale and include residential, commercial and recreational (campground) development. In addition to these projects, the Applicant is proposing demolition of its off-site fuel tanks. The combined projects would not significantly disrupt or physically divide an established community. Additionally, discretionary approval of these projects would ensure consistency with applicable local land use planning documents and Zoning Ordinances.

Cumulative construction impacts, such as increased dust, noise, and traffic may affect the general project vicinity. The cumulative, construction noise effects of all these projects are not expected to be significant. Please see the **TRAFFIC AND TRANSPORTATION** sections of the FSA for a discussion of the cumulative traffic impacts. Please see the **AIR QUALITY** section of the FSA for its discussion on air quality.

## ENVIRONMENTAL JUSTICE

Staff has reviewed Census 2000 information that shows the minority population is not greater than fifty percent within a six-mile radius of the proposed Morro Bay Power Plant project (please refer to Socioeconomics Figure 1 in this Final Staff Assessment), and Census 1990 information that shows the low-income population is less than fifty percent within the same radius. Based on the land use analysis, staff has not identified significant direct or cumulative impacts resulting from the construction or operation of

the project, and therefore there are no land use environmental justice issues related to this project.

## FACILITY CLOSURE

At some point in the future, the proposed facility would cease operation and close down. At that time, it would be necessary to ensure that closure occurs in such a way that public health and safety and the environment are protected from adverse impacts.

The planned lifetime of the MBPP is 30 years (Duke, 2000a). At least twelve months prior to the initiation of decommissioning, the Applicant would prepare a Facility Closure Plan for Energy Commission review and approval. This review and approval process would be public and allow participation by interested parties and other regulatory agencies. At the time of closure, all applicable LORS would be identified and the closure plan would discuss conformance of decommissioning, restoration, and remediation activities with these LORS. All of these activities would fall under the authority of the Energy Commission.

There are at least two other circumstances under which a facility closure can occur, unexpected temporary closure and unexpected permanent closure. Staff has not identified any LORS from a land use perspective that the Applicant would have to comply with in the event of unexpected temporary closure or unexpected permanent closure of the MBPP.

## RESPONSE TO PUBLIC AND AGENCY COMMENTS

Staff has summarized key points received from public correspondence on the MBPP project docketed with the Energy Commission. The following listing of comments (below) were determined relevant for response under the LAND USE section. The correspondent's summarized comments have been listed with staff's response provided in italics below it.

**California Coastal Commission (CCC)**

CCC –4 – The Final Staff Assessment (FSA) needs to make a finding of consistency with the following sections of the California Coastal Act: sections 30211, 30212, 30220, 30230, 30231, 30240, 30251 and 30253.

*The correspondent offered policies from the California Coastal Act. Energy Commission staff incorporated the noted Coastal Act policies and other applicable policies from the Act under the Impacts section of the land-use analysis. The Coastal Act policies are discussed under the IMPACTS section subsection entitled CALIFORNIA COASTAL ACT.*

CCC-5 – The FSA should analyze the impacts to coastal resources from the proposed lay-down area at Camp San Luis Obispo.

> *The land–use analysis includes a review of land use LORS for the temporary satellite parking and the lay down/staging area. Specifically, see the IMPACTS section, subsections entitled SAN LUIS OBISPO COUNTY LAND USE PLANS AND*

*ORDINANCES and COMPATIBILITY WITH EXISTING AND PLANNED LAND USES. Also refer to the other technical sections (i.e. **AIR QUALITY**, **BIOLOGICAL RESOURCES**, **TRAFFIC AND TRANSPORTATION**, **SOIL AND WATER**, etc.) in the FSA for their analysis of the satellite parking and lay down/staging area.*

CCC-6 – How would the modification to the seawater intake structure be consistent with the California Coastal Act?

*The proposed PSA LAND-8 has been removed from the land-use technical section analysis. For discussion regarding the façade for the project refer to **VISUAL RESOURCES** and **FACILITY DESIGN** (engineering) sections of the FSA.*

CCC-9 – The proposed Preliminary Staff Assessment (PSA) Condition of Certification LAND-2 should also require Duke Energy to create a funding source to provide for long-term management of the habitat conservation easement for the life of the project.

*The originally proposed PSA LAND-2 has been removed from the land-use technical section analysis. For any discussion regarding the habitat conservation easement(s) for the project refer to the **BIOLOGICAL RESOURCES** section of the FSA.*

CCC-10 – The proposed PSA Condition of Certification LAND-3 should clarify the amount of land needed to satisfy the Warren-Alquist Act's public use land requirement. How will suitability of the land be determined? The correspondent requests that the Energy Commission consult with the Executive Director of the California Coastal Commission prior to making a determination.

*The Warren-Alquist Act does not prescribe an acreage formula to be used by the Energy Commission for the calculation of the "public use" land requirement. The Act does not prescribe how the land is to be developed (i.e. new City or County park, hiking trail, bike path, etc.). The land amount and how it is to be developed are based on project-by-project negotiations. In the case of Duke Energy's Moss Landing power plant, the resulting amount of public use land agreed upon involved enough land to construct a hiking trail that was to run along the ocean side of the power plant. This portion of constructed trail would connect existing trails located on both sides of the power plant (roughly 1.2 acres of trail area). The County of Monterey and Duke conducted the negotiations and the Energy Commission approved the final outcome.*

*As stated in a proposed FSA LAND-2, the condition of certification for the "public use" land requirement includes wording, "if the public use land is located within the Coastal Zone the Executive Director of the California Coastal Commission will have the opportunity to review it and present written comments to the Energy Commission's Compliance Project Manager (CPM) for the project."*

CCC –11 – The correspondent suggests modifying the proposed PSA-3 to read ". . security, public safety, and protection of Environmentally Sensitive Habitat Areas."

*The suggested additional wording by the correspondent, "and protection of Environmentally Sensitive Habitat Areas" has not been added to the proposed FSA LAND-2. The intent of the Warren-Alquist "public use" land requirement is for a property owner to provide land and make it available for public use. Involving public use land for the purpose of protecting Environmentally Sensitive Habitat Area contradicts the Warren-Alquist Act's intent of public use. It would involve restricting, if not eliminating, the public's use of the land in order to protect environmentally sensitive habitat areas. A common mechanism used for the purpose of protecting environmentally sensitive habitat areas is a habitat conservation easement.*

CCC-12 – The correspondent suggests modifying proposed PSA LAND-3 to include land dedication language from the Draft Agreement To Lease requiring Duke Energy to record a deed restriction limiting future uses of dedicated land to public access and recreation uses consistent with the California Coastal Act.

*The correspondent's suggested deed restriction language presents potential limitations to the Warren-Alquist Act's public use land intent and as such is premature prior to negotiations with the applicant and review of the proposed site(s) to be selected. How the land is to be developed and used is based on project-by-project negotiations. The "public use" land requirement under the Warren-Alquist Act potentially permits land dedication outside of the designated Coastal Zone for this project. The land may be developed as a new City or County park subject to city/county regulations. A deed restriction may be in conflict with the benefiting (receiving) jurisdiction's government codes or their wishes. The applicant has not submitted a final proposal to the Energy Commission for review, therefore, the site selection remains open for consideration.*

CCC-13 – The correspondent requests that the proposed PSA LAND-7 include a requirement to send the California Coastal Commission copies of approved permits for any project activities in wetlands or estuaries.

*The originally proposed PSA LAND-7 condition has been removed from the land-use technical section analysis. The correspondent's request has been forwarded to the Biological Resources staff.*

CCC-14 – The correspondent requests including in the proposed PSA LAND-8 a requirement that the new façade for the intake structure to be consistent with Section 30251 of the California Coastal Act. The correspondent also requests that the design and building plans for the new façade be approved by the City of Morro Bay in consultation with the Coastal Commission.

*The proposed PSA LAND-8 has been removed from the land-use technical section analysis. For discussion regarding the façade for the project refer to* ***VISUAL RESOURCES*** *and* ***FACILITY DESIGN*** *sections of the FSA.*

**California Department of Fish & Game (CDFG)**

CDFG –20 – CDFG does not support the construction road, bike path, and bridge crossing of Morro Creek because the bridge does not protect coastal dune scrub or riparian habitat to the maximum extent feasible.

CDFG – 21 – The project is not consistent with the City of Morro Bay Coastal Land Use Plan (CLUP) Policy 5.20 that no dune areas should be disrupted unless there are no other less environmentally damaging alternatives. Less environmentally damaging alternative roads are available to provide for construction traffic to the project site.

CDFG – 22 – The placement of the construction road and bridge crossing violates the City of Morro Bay CLUP Policies 11.01 and 11.02.

CDFG – 23 – The preliminary location of the road and bridge crossing appear to conflict with the City of Morro Bay CLUP Policy 11.06.

CDFG –24 – The proposed road and bike path conflict with the City of Morro Bay CLUP Policy 11.20. The bike/pedestrian path does not prevent users from traversing the sensitive dune habitats and potentially trampling on sensitive species or habitat.

*The following response is to address all of the CDFG comments above.*

*For any discussion regarding the coastal dune scrub habitat, riparian habitat and conservation easement(s) for the project refer to the* ***BIOLOGICAL RESOURCES*** *section of the FSA.*

*From the land use perspective, also see the discussion under the California Coastal Act and the City of Morro Bay Coastal Land Use Plan under the IMPACTS section of this analysis.*

*It should be noted that as part of the project design, the applicant has committed to avoiding Environmentally Sensitive Habitat areas by: locating power block structures outside of the 100 feet buffer zones for the designated environmental sensitive areas; placing a sound wall along the northern berm to reduce project-related noise impacts on wildlife that may use such areas; and, placing the footings of the proposed Morro Creek bridge outside of the creek's riparian zone.*

*Additionally, the applicant has committed to habitat conservation easements involving environmental sensitive areas on and off-site. The applicant is currently in consultation with state and federal resource agencies regarding impacts to about 4.5 acres of sensitive dune scrub habitat located within the former Den Dulk property, recently purchased by the applicant. Mitigation programs being discussed include providing a habitat conservation easement to the California Department of Fish and Game over portions of the property and fencing-off and placing signs around the dune scrub habitat area. The Coastal Commission has also recommended that a large portion of this area be placed under a habitat conservation easement with a provision that no public access or public use is to occur within the sensitive habitat area except for use within the City's existing 36 foot public right-of-way. The public right-of-way currently serves as an unimproved road providing access to Morro Strand State Beach.*

*Correspondence from the U.S. Coast Guard states, "provided there is no development of significant controversy concerning navigational or environmental issues, and there is no significant impact, no individual Coast Guard bridge permit will be required for this project (COMDTOMST M16590.5C). This does not relieve the applicant from complying with all applicable federal, state and local laws, and associated permit requirements.*

*If the character of navigation changes such that the waterway no longer meets advance approval criteria, the Coast Guard will promptly withdraw the advance approval designation for this waterway and notify all interested parties."*

## City of Morro Bay (CMB)

CBM –82 – In response to the originally proposed PSA LAND-2, correspondent says that the City of Morro Bay should not be the only entity listed for receipt of permanent conservation easements. A non-government agency with qualifications in land management may be more appropriate. The City is interested in the long-term management plans for the site. How will long-term management be addressed, funded, and monitored? Also, all copies of mapped areas and recorded conservation easements should be submitted prior to the start of construction.

*The originally proposed PSA LAND-2 condition has been removed from the land-use technical section analysis. For any discussion regarding the habitat conservation easement(s) for the project refer to the **BIOLOGICAL RESOURCES** section of the FSA.*

CMB –83 – The correspondent suggests including into the wording of the proposed PSA LAND-3 all of the specific dedications referenced in the draft City/Duke Energy Agreement to Lease including the Den Dulk property, second intake area, frontage strip, and onsite lands. Also it is suggested to include the following text modification to the proposed PSA LAND-3: "Said land shall be maintained by the project owner and shall be available for public access and use, subject to restrictions required for security, and public safety, and protection of sensitive natural resources."

*As of the date of the writing of this analysis, the parties (City of Morro Bay and Duke Energy) to the "Agreement to Lease And Agreement Regarding Power Plant Modernization" have not signed and recorded the document. Both parties have chosen to sign the Agreement after the public release of the FSA for the project.*

*The "public use" land requirement remains open to negotiation pending Duke's submittal of their land proposal on the matter to the Energy Commission for approval. The project owner potentially may wish to submit a land offer different from those being discussed with the City. The public use land dedication is not limited to land within the vicinity of the City of Morro Bay.*

*In the case of Duke Energy's Moss Landing power plant, the resulting amount of public use land agreed upon involved enough land to construct a hiking trail that was to run along the ocean side of the power plant. This portion of constructed trail would connect existing trails located on both sides of the power plant*

*(roughly 1.2 acres of trail area). The County of Monterey and Duke conducted the negotiations and the Energy Commission approved their final outcome.*

*The suggested additional wording by the correspondent, "and protection of sensitive natural resources" has not been added to the proposed FSA LAND-2. The intent of the Warren-Alquist "public use" land requirement is for a property owner to provide land and make it available for public use. Involving public use land for the purpose of protecting sensitive habitat areas contradicts the Warren-Alquist Act's intent of public use. It would involve restricting, if not eliminating, the public's use of the land in order to protect environmentally sensitive habitat areas. A common mechanism used for the purpose of protecting environmentally sensitive habitat areas is a habitat conservation easement.*

CMB –84 – The correspondent points out that the proposed PSA LAND-4 Condition of Certification required the project owner to demolish the existing facility within 36 months after the "start date of commercial power generation" by the new generation facility. However, no definition of "start date of commercial power generation" is provided, so it is not clear when the 36 month demolition obligation begins.

In addition, the project owner should be required to begin demolition within six months of the start of commercial power generation and completed within 36 months. It is suggested that the schedule for demolition included in the draft "Agreement To Lease" be incorporated by reference into the proposed PSA LAND-4. Also, a provision should be made for requiring completion of site remeditation and site restoration following any remediation with a timeline for completion of these activities to the satisfaction of the City and other applicable regulatory agencies.

*The originally proposed PSA LAND-4 has been removed from the land-use technical section analysis. For a discussion regarding the demolition of the existing facility and the proposed Conditions of Certification for the demolition refer to the* ***FACILITY DESIGN*** *(engineering),* ***HAZARDOUS MATERIALS, WASTE MANAGEMENT, SOIL AND WATER RESOURCES, AIR QUALITY, WORKER SAFETY AND FIRE PROTECTION*** *sections and the* ***GENERAL CONDITIONS OF CERTIFICATION*** *of this FSA.*

CMB –85 – The correspondent points out that the proposed PSA LAND-5 Condition of Certification did not define a "detailed site plan." The correspondent suggests use of the City's definition of a detailed site plan found in the City's Planned Development (PD) overlay zone regulations. The City's definition requires the submittal of a demolition plan, a remediation plan, a restoration plan, grading/drainage plan, landscaping plan, lighting plan, and colors/materials plan. The correspondent notes that the condition also states that the site plan shall comply with the City's PD overlay zone regulations. The PD overlay zone requires the approval of a concept plan and precise plan by the City. The required contents of each are detailed in Table 17.40.030 of the PD Overlay Zone.

*The originally proposed PSA LAND-5 has been removed from the land-use technical section analysis.*

*The correspondent suggests that the Energy Commission use the definition that City of Morro Bay's uses for a "detailed site plan" under the City's Planned Development (PD) overlay zone. The City's definition would require the applicant to submit a demolition plan, a remediation plan, a restoration plan, grading/drainage plan, landscaping plan, lighting plan, and colors/materials plan. It should be noted that the applicant is already required by Conditions of Certification from approximately 20 technical areas for this project to provide a variety of plans, many more than what the City's definition requires. The use of the City's definition may be limiting to the Energy Commission technical needs. The collection of the required Energy Commission plans presented in the FSA provides a very detailed site plan for the project. For a discussion regarding the various plans refer to the* ***FACILITY DESIGN****,* ***HAZARDOUS MATERIALS, WASTE MANAGEMENT, SOIL AND WATER RESOURCES, VISUAL RESOURCES, AIR QUALITY, WORKER SAFETY AND FIRE PROTECTION*** *sections of this FSA and their Conditions of Certifications.*

## CONCLUSIONS AND RECOMMENDATONS

The land use analysis for the project focused on two main issues: (1) the project's consistency with land use plans, ordinances and policies; and (2) the project's compatibility with existing and planned land uses. As such, the MBPP project maintains the character of the City and its land use resources because: 1) the project is compatible with the heavy industrial character of the site; 2) the project would not disrupt or divide the physical arrangement of an established community; 3) the project would not preclude or unduly restrict existing or planned land uses; and 4) with mitigation, operation of the project would not cause any significant noise, dust, public health, traffic, or visual impacts to nearby land uses, nor would the operation of the MBPP contribute substantially to any cumulative land use impacts.

If the Energy Commission certifies the MBPP, Staff recommends that the Commission adopt the following proposed Conditions of Certification.

## PROPOSED CONDITIONS OF CERTIFICATION

**LAND-1** The project owner shall comply with the State requirements (Pub. Resources Code section 6701-6706) for the leasing of tide and submerged lands involving the Public Trust for Commerce, Navigation and Fisheries administered by the City of Morro Bay for the project's Outfall Area.

**Verification:** The project owner shall submit to the California Energy Commission's Compliance Project Manager (CPM) a copy of the final executed Outfall Lease Agreement, that covers the City's administered property. Said lease Agreement shall be submitted prior to November 15, 2004 or prior to the start of "commercial operation," whichever occurs first.

**LAND-2** Prior to the start of commercial operation, the project owner shall provide land to be established for "public use" in accordance to Section 25529 of the Warren-Alquist Act subject to the review and approval by the CPM. Said land

shall be covered under an easement designating it for “public use”. Said land shall be maintained by the project owner and shall be available for public access and use, subject to restrictions required for security and public safety. The project owner may dedicate such public use land to any local agency agreeing to operate or maintain it for the benefit of the public. If no local agency agrees to operate or maintain said land for the benefit of the public, the project owner may dedicate the land to the State.

**Protocol**: The project owner shall provide a location map, a current plot plan, survey map showing dimensions, the legal description(s) and a written description of the land being proposed for public use to be granted and a copy of the “public use” easement language for review and approval by the CPM.

If the land to be established for “public use” is located within the State designated “Coastal Zone” in accordance to the California Coastal Act, said land shall be subject to review and comment by the Executive Director of the California Coastal Commission.

If the land to be established for “public use” is located within the jurisdictional boundary of the City of Morro Bay or the County of San Luis Obispo, said land shall be subject to review and comment by the affected local government.

The CPM shall provide the Executive Director of the Coastal Commission and/or the affected local government 30 calendar days to provide written comments to the CPM.

**Verification:** The project owner shall provide to the CPM a copy of the recorded grant deed and executed “public use” easement on the land for public use approved by the CPM prior to the start of commercial operations by the new power generation facility. If the project owner chooses to maintain the ownership of the land, the project owner shall provide monthly monitoring of the maintenance and operation of the land in the annual compliance report.

**LAND-3** Prior to the start of site mobilization, the project owner shall identify the final lay down/staging area(s) for the project for approval by the CPM. The project owner shall provide to the CPM for review the following items: (1) descriptions of the final lay down/staging areas identified for construction of the project, including (a) Assessor's Parcel numbers; (b) addresses; (c) General Plan, and LCP (if applicable) land use designations; (d) zoning; (e) site plan showing dimensions; (f) owner's name and address (if leased); and, (g) duration of lease (if leased); and, if a discretionary permit was required; (2) copies of all discretionary and/or administrative permits necessary for site use as a lay down/staging areas.

If a lay down/staging area is to be located within the jurisdictional boundary of the County of San Luis Obispo, the City of Morro Bay and/or the State designated Coastal Zone, the County of San Luis Obispo, the City of Morro Bay and/or the Executive Director of the California Coastal Commission shall

have 30 calendar days to provide written comments to the CPM on the lay down/staging area to review for approval.

**Verification:** Sixty (60) days prior to the start of site mobilization, the project owner shall provide to the CPM for review and approval the final lay down and staging area(s) information as specified above.

**LAND-4** The project owner shall comply with the State requirements (Pub. Resources Code section 30210-30214) to insure that public access to beach and waterfront areas and beach/waterfront parking areas serving Morro Strand State Beach, Morro Rock Natural Preserve and Morro Bay State Park within a one mile radius of the existing 107 acre MBPP property are not closed or substantially access-impaired for longer than 24 hours at any given time due to construction activities related to the new power generation facility or the demolition of the old power generation facility.

**Protocol:** The project owner shall prepare a complaint resolution form, or functionally equivalent procedure and/or post an 800 telephone number acceptable to the CPM, to document and respond to public access complaints. The project owner shall attempt to contact the person(s) making the complaint within 24 hours. The project owner shall submit a report documenting the complaint and actions taken. The report shall include a complaint summary, including final results.

**Verification:** In Monthly Compliance Reports during construction of the new facility and/or demolition of the old facility, the project owner shall submit to the CPM copies of any filed complaints. The project owner shall retain copies of the complaints in a file available to the public until the issuance of the final inspection for the demolition of the old power generation facility by the CBO.

**LAND-5** The project owner shall ensure that all applicable design, development, operational, combining designation, and special use standards of the San Luis Obispo County Coastal Zone Land Use Ordinance (Title 23 of the San Luis Obispo County Code) are fully adhered to during the pre-construction, construction, use, and restoration of the proposed satellite parking area and construction laydown/staging area.

**Protocol:** Prior to site mobilization for the satellite parking area and laydown/ staging areas, the project owner shall submit any required design, construction, operational, and restoration plans for the satellite parking area and laydown/staging area to the applicable departments of San Luis Obispo County and the Executive Director of the California Coastal Commission if applicable, for review and comment.

The San Luis Obispo County Department of Planning and Building, and, if applicable the Executive Director of the California Coastal Commission shall have 30 calendar days to review the satellite parking area and laydown/staging area and provide written comments to the CPM to review for approval. Said 30-calendar day review period shall start upon the submittal of the plan or plans to the San Luis Obispo County Department of Planning and Building and said Executive Director by the project owner.

**Verification**: At least 30 days prior to site mobilization for the satellite parking and laydown/staging area, the project owner shall submit written evidence to the CPM for approval demonstrating that the project conforms to all applicable adopted regulations and requirements as established by the San Luis Obispo County Coastal Zone Land Use Ordinance.

**LAND-6** To help promote public access and recreation adjacent to the project site and satisfy Public Resources Code section 30210-30214 and 25529, the project owner shall fund an endowment, through a one-time payment of $355,000.00 (in two payments as described within the verification), to be used for the purpose of maintaining all of the Class I (approximately 5,261 feet) and the Class II (approximately 3,094 feet) bike paths and pedestrian paths, irrespective of ownership, proposed in the Project's AFC (October 2000), as amended. The endowment and its income will be used to fund basic maintenance activities (signage, slurry seal, stripping, sweeping, patching, landscaping, lighting bulbs replacement, if any, and routine repairs) for these bike and pedestrian paths for the life of the project. These maintenance activities will be carried out by the City of Morro Bay or other appropriate entity, as determined by the project owner in consultation with the Executive Director of the California Coastal Commission and approved by the CPM.

**Protocol:** A Memorandum of Agreement (MOA) shall be executed between the Energy Commission, the Executive Director of the California Coastal Commission, the project owner, and the entity selected to carry out the basic maintenance activities required by this condition. At a minimum, the MOA shall contain the following: 1) a provision stating that the endowment and income will be used to carry out basic maintenance activities as indicated above; 2) a provision requiring the selected entity to deposit the funds into an individual interest-bearing account and; 3) a provision requiring the entity to maintain Generally-Accepted Accounting Principles and financial management.

As requested by the CPM or the Executive Director of the California Coastal Commission, but not more frequently than once each year during the life of the project, the project owner shall meet with the CPM, the Executive Director of the California Coastal Commission, and the designated maintenance entity to determine if the remaining funds comprising the endowment are sufficient to cover the costs of annual basic maintenance activities planned for such year. If the parties mutually agree that the funds generated are not sufficient to cover such costs, the project owner shall contribute sufficient funds to cover the anticipated shortfall for that year. In the event that the parties cannot mutually agree on the adequacy of the endowment to cover any such year's annual maintenance costs, the CPM shall make the final determination on the issue of adequacy of funds. If the CPM determines that the funds in the endowment are insufficient to cover such maintenance costs, the project owner shall contribute sufficient funds to cover the anticipated shortfall for that year.

**Verification**: Within 60 days after the completion of the bridge over Morro Creek, or completion of the first segment of Class I bike path proposed in the Project's AFC

(October 2000), as amended, whichever is earlier, the project owner shall remit to the CPM a check in the amount of $177,500 (50% of the fund). The CPM will then transfer this amount to the agreed-upon entity that will carry out the purposes of the MOA. The MOA shall be executed by all parties prior to or on the date the above amount is transferred to the agreed-upon entity. Within 60 days of the completion of the final segment of bike or pedestrian path, the project owner shall deliver to the CPM the balance of the endowment. The CPM will then transfer these funds to the agreed-upon entity.

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# SOIL & WATER RESOURCES

Testimony of Joe Crea, Dominique Brocard, Jack Buckley, Jim Henneforth,
Jim Thurber and Mike Krolak

## INTRODUCTION

This section of the Final Staff Assessment (FSA) analyzes potential effects on soil and water resources from the construction and operation of the Morro Bay Power Plant (MBPP), proposed by Duke Energy Morro Bay LLC ("Duke" or "applicant"). The analysis focuses on the potential for the project's construction or operation to:

- significantly impact the existing surface hydrology, including alteration of the 100-year floodplain;
- degrade groundwater supply or quality;
- lead to accelerated wind or water erosion and sedimentation; and
- impact surface water supply or quality, including ocean waters.

This assessment also addresses the project's ability to comply with all applicable federal, state and local laws, ordinances, regulations and standards, identifies mitigation measures and recommends conditions of certification.

The **Waste Management** section addresses issues related to remediation of contaminated soil and water. Biological resource issues associated with cooling water intake and discharge are addressed in the **Biological Resources** section.

## LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

### FEDERAL

### Clean Water Act

The Clean Water Act (33 USC § 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States.

The Clean Water Act requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. These discharges are regulated by this act, through requirements set forth in specific or general National Pollutant Discharge Elimination System (NPDES) permits. In California, the NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCB). The proposed project will be addressed by the Central Coast Regional Water Quality Control Board (CCRWQCB) through issuance of a new NPDES permit for the MBPP. Stormwater discharges related to earthmoving activities involving five or more acres of earth disturbance also fall under this act, and are addressed through a General NPDES Permit for Stormwater Discharges associated with Construction Activities.

Section 316 (33 USC § 1326) of the Clean Water Act specifically addresses thermal discharges and cooling water intake structures. Subsection (a) provides that " … the owner or operator of any such source … can demonstrate to the satisfaction of … the state that any effluent limitation proposed for the control of the thermal component of any discharge from such source will require effluent limitations more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is to be made … the state may impose an effluent limitation … that will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on that body of water."

Subsection (b) of section 316 requires that " … the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact."

Section 404 of the Clean Water Act regulates the discharge of dredged or fill materials into the waters of the United States, including rivers, streams, and wetlands. The U.S. Army Corps of Engineers administers the Section 404 permit. Maintenance dredging associated with the intake and discharge structures may be subject to 404 permit requirements.

Section 401 of the Act requires that the Regional Water Quality Control Board must certify any activity that may result in a discharge into a waterbody. This certification ensures that the proposed activity will not violate state and federal water quality standards.

### River and Harbor Act

Section 10 of the River and Harbor Act of 1899 specifies permit requirements for work on structures over, in, and/or under navigable waters of the United States (33 U.S.C. Section 403). The purpose of this law is to preserve the navigability of the waters of the United States by prohibiting the unauthorized obstruction or alteration of any navigable waters. Section 10 is administered by the U.S. Army Corps of Engineers.

## STATE

### Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the State Water Resources Control Board (SWRCB) and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards and implementation procedures. The criteria for the project area are contained in the *Basin Water Quality Control Plan – Central Coast Region Basin* (RWQCB 1994), the California Ocean Plan (1997), and the Thermal Plan (1975).

The Porter-Cologne Water Quality Control Act also requires the SWRCB and the nine RWQCBs to ensure the protection of water quality through the regulation of waste discharges to land. Such discharges are regulated under Title 23, California Code of Regulations, section 2200 et seq. These regulations require that the RWQCB issue a

Waste Discharge Requirement regarding the discharge of waste (soil) into surface waters resulting from land disturbance.

## California Water Code

California Water Code § 13550 requires the use of reclaimed water, where available. The use of potable domestic water for nonpotable uses, including, industrial uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available.

California Water Code § 13260 requires that, as part of the NPDES permit, any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system must submit a report of waste discharge to the RWQCB.

## California Constitution

**California Constitution, Article 10, §2**: This provision states that the water resources of the state should be put to beneficial use to the fullest extent possible. The waste or unreasonable use or unreasonable method of use of water is prohibited and water conservation is encouraged. The right to water or to the use of the flow of water and riparian rights is to be maintained by reasonable methods of diversion and use.

## State Water Resources Control Board Plans

### California Thermal Plan

In 1972, the State Water Resources Control Board adopted the "Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California", more commonly known as the Thermal Plan. The Thermal Plan, which was later amended in 1975, sets limits on the discharge of wastewaters with elevated temperatures into coastal, estuarine and interstate waters in order to meet water quality objectives. The Thermal Plan provides the authority for the RWQCB to grant exceptions to the specific water quality objectives in accordance with Section 316(a) of the Clean Water Act. Such exemptions also require the approval of the SWRCB.

- A major aim of the Thermal Plan is to protect marine resources in the ocean, enclosed bays and estuaries from the adverse impacts of thermal waste. Thermal waste is defined as cooling water and industrial process water used to carry waste heat from such large point sources as power plants. Two categories of discharges exist: "existing" which are discharges in place or under construction prior to the plan's 1971 adoption and "new" which are discharges developed after the plan was adopted.

### California Ocean Plan

In 1997, the SWRCB (Resolution 97-026) adopted the latest version of the Water Quality Control Plan for Ocean Waters of California (California Ocean Plan). The California Ocean Plan establishes beneficial uses and water quality objectives for the state's ocean waters outside of enclosed bays, estuaries and lagoons. The plan also sets forth effluent limitations, management practices and prohibitions. Every three years the plan is reviewed and, if necessary, updated.

## California Coastal Act of 1976 (Pub. Resources Code §30000 et seq.)

**Chapter 3: Coastal Resources Planning and Management Policies. Article 4. Marine Environment, Section 30231:** This section requires that the "…biological productivity and the quality of coastal waters, wetlands, estuaries and lakes shall be maintained by minimizing adverse effects of wastewater discharges and entrainment, controlling runoff, preventing depletion of groundwater…" Refer to the **Land Use** section of the FSA for further detail.

# LOCAL

## City of Morro Bay Flood Damage Prevention Ordinance

Chapter 14.72 Flood Damage Prevention – Provisions within this chapter ensure uses within flood prone areas are adequately elevated, protected, or otherwise flood proofed. Flooding may also be induced when obstructions create irregular flood patterns. The purpose of the provisions is to protect public health and safety and to reduce public and private losses due to flooding events.

A Development Permit is required prior to any construction within any area of special flood hazard. The areas of special flood hazard are identified in the 1985 Federal Emergency Management Agency (FEMA) Flood Insurance Study and the accompanying Flood Insurance Rate Map. The Development Permit includes, but is not limited to, verification that all proposed sites are reasonably safe from flooding and will not adversely affect the carrying capacity of a watercourse.

## City of Morro Bay Grading Permit

The City of Morro Bay enforces the California Building Code Chapter 33 for grading and excavation activities within the City limits. A geotechnical investigation and a Grading and Drainage Plan must be submitted for review and approval prior to issuance of the grading permit.

## City of Morro Bay New Project Water Usage Tracking

The City of Morro Bay requires that net new water usage for development (historical usage less projected new usage) be calculated by the Planning and Building Division staff using the procedures included in the Morro Bay Municipal Code Chapter 13.20. Net new water usage, measured in water equivalency units (weu's, 1 weu = 0.25 acre-feet/year) shall be noted on the building permit and shall also be noted in a water allocation log administered by the Building Official. If the project will involve a net increase of eight (8) or more weu's, review and approval of a "regular" Coastal Development Permit pursuant to Section 17.58.030 of the Morro Bay Zoning Ordinance will be required.

## City of Morro Bay Zero Pollution Policy

The City of Morro Bay enforces a groundwater contamination policy that is more stringent than the cleanup requirements of the RWQCB. Under the City of Morro Bay's Public Nuisance Code Municipal Code Chapter 8.14, the City enforces a "zero pollution" policy regarding groundwater and soil contamination.

## STATE POLICIES

### State Water Resources Control Board Policies

The SWRCB has also adopted a number of policies that provide guidelines for water quality protection. The Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (adopted by the Board on June 19, 1976 by Resolution 75-58) states that use of fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. This SWRCB policy states that power plant cooling water should, in order of priority, come from wastewater being discharged to the ocean, ocean water, brackish water from natural sources or irrigation return flow, inland wastewaters of low total dissolved solids, and other inland waters. This policy also defines cooling water discharge prohibitions.

The principal policy of the State Board which addresses enclosed bays and estuaries is the "Water Quality Control Policy for the Enclosed Bays and Estuaries of California" (adopted by the Board on May 16, 1974 by Resolution 74-43). This policy contains a number of prohibitions on waste discharges including chemical, biological and petroleum related waste.

## ENVIRONMENTAL SETTING

## REGIONAL AND VICINITY DESCRIPTION

The site is located on a low lying coastal terrace along the Central California coast with the northwestern portion of Morro Bay to the southwest, Estero Bay and Morro Rock to the west, and the Pacific Ocean west of both bays. East of the site is the western coastal edge of the Santa Lucia range, which consists of rolling hills formed by the Franciscan Assemblage geologic regime (Duke 2000a).

Annual average precipitation at the MBPP is approximately 14 inches with about 90 percent of the precipitation occurring between November and April. Cool wet winters and warm dry summers along with marine layers characterize the coastal climate in this region of California. Annual average temperatures range between the mid 40s to the low 70s (°F) (Duke 2000a).

The existing 107 acre site is essentially flat with an elevation ranging from about 15 to 23 feet above mean lower low water (MLLW) level. Morro Creek and recreational land uses are located on the north side of the site. Highway 1 is located to the east of the site, while residential/commercial land uses lie to the south. (Duke 2000a).

## SURFACE HYDROLOGY

Surface water bodies in the vicinity of the project include Estero Bay, Morro Bay and Morro Creek. Beneficial uses of these water bodies identified by the RWQCB (1994) are identified in SOIL & WATER RESOURCES Table 1.

**SOIL & WATER RESOURCES TABLE 1**
**Surface Water Beneficial Uses**

| | Estero Bay | Morro Bay | Morro Creek |
|---|---|---|---|
| Water contact recreation | ● | ● | ● |
| Non-contact water recreation, including aesthetic enjoyment | ● | ● | ● |
| Industrial water supply | ● | ● | |
| Navigation | ● | ● | |
| Marine habitat | ● | ● | |
| Shell fish harvesting | ● | ● | |
| Ocean commercial and sport fishing | ● | ● | |
| Preservation of rare and endangered species | ● | ● | ● |
| Wildlife habitat | ● | ● | ● |
| Municipal supply | | | ● |
| Agricultural supply | | | ● |
| Groundwater recharge | | | ● |
| Warm fresh water habitat | | | ● |
| Cold fresh water habitat | | | ● |
| Migration of aquatic organisms | | | ● |
| Spawning, reproduction or early development | | | ● |
| Estuarine habitat | | | ● |
| Commercial and sport fishing | | | ● |

Source: SWRCB Water Quality Control Plan, Central Coast Region, 1994.

## Estero Bay

Located along California's Central Coast, between Estero Point to the north and Buchon Point to the South, Estero Bay is about 15 miles long and 5.5 miles wide. The majority of the bay is underlain by sandy substrate. The Estero Bay shoreline is rocky at both ends, with a sandy beach occupying the central section (Duke 2000a).

Currents in Estero Bay are influenced by tides and wind and the California Current, which flows south down the coast. During the winter, the California Current is occasionally displaced by the northerly Davidson Current.

The tides in the area are composed of a high high-tide and low high-tide daily (i.e. two tides of unequal amplitude per 24.8-hour period). The tidal range between Mean Lower Low Water (MLLW) and Mean Higher High Water (MHHW) is about 5.3 ft, while the mean amplitude of the smaller tide, between Mean Lower High Water and Mean Higher Low Water, is 2.3 ft. These unequal daily tides are modulated by the monthly variations from neap conditions (small amplitude) to spring conditions (larger amplitudes). During ebb, local currents are usually to the south, while during floods, local currents are

typically to the north, but it is likely that an eddy forms north of Morro Rock during these periods, resulting in a southerly current along the beach.

Winds, which are predominantly from the northwest in the area, tend to generate a counterclockwise gyre, with a northerly component along the shore. This component is enhanced by swells, which predominantly originate from the south.

Upwelling of deeper waters, which occurs regularly along the central California coast, also affects currents in Estero Bay. Upwelling events are triggered by sustained winds, and bring to the shore colder, nutrient rich waters.

Surface water temperatures in Estero Bay typically range from 49 to 68$^{o}$F (Duke 2000a), although higher temperatures can occur in shallow portions of the bay during windless periods.

Water quality information for Estero Bay is available from several sources including the Central Coast RWQCB and the National Oceanic and Atmospheric Agency. Measurements conducted on the cooling water intake water indicates a relatively constant salinity of 33.4 to 33.8 parts per trillion (ppt) and a dissolved oxygen content of 6.6 to 10.8 mg/l (DUKE 2000a).

**Morro Bay**

In recognition of its ecological and socio-economic importance, as well as its vulnerability, Morro Bay has been designated a State and National Estuary.

Morro Bay is a shallow tidal embayment formed by the accumulation of northward littoral transport in a sand barrier just south of Morro Rock. A narrow manmade connection with the ocean exists, allowing tidal flow into and out of the bay, as well as flows from the Chorro and Los Osos Creeks that discharge to Morro Bay. The entrance to the bay is protected by two breakwaters and a navigation channel is maintained by the Corps of Engineers. The navigation channel is dredged every 3 to 4 years to a nominal depth of 15 ft below MLLW. In addition, about 5,000 cubic yards of sediments are dredged in front of the Morro Bay Power Plant intake every 5 to 10 years. The navigation maintenance dredging has had considerable effect on water exchanges between Morro Bay and the ocean.

The total surface area of Morro Bay is about 3.3 square miles at high tide, and less than 1 square mile at low tide. The bottom elevation of Morro Bay is about 3.8 ft below Mean Tide Level (MTL), or 1 ft below MLLW. However, at low water the average water depth is 8.4 ft, reflecting the fact that much of the open water is made of dredged channels.

The fresh water inflows to Morro Bay from Chorro and Los Osos Creeks are subject to considerable seasonal variations, as summarized in SOIL & WATER RESOURCES Table 2 (Tetra Tech 1999). For comparison, the proposed cooling water withdrawal for the modernization project is 551cubic feet per second (cfs) for base load and 735 cfs for peak load.

**SOIL & WATER RESOURCES TABLE 2**
**Flows to Morro Bay**

| | Summer Low flow (cfs) | Medium Flow (cfs) | 2-year Flood Flow (cfs) |
|---|---|---|---|
| Chorro Creek | 1.4 | 64 | 1,146 |
| Los Osos Creek | 0.3 | 3.3 | 203 |

Source: Duke 2000a –Appendix 6.5-3, page 6

Tides generate considerable flow in and out of Morro Bay. The volume of water that goes in and out of the bay during each tide cycle, called the tidal prism, is about 8,130 acre-ft, between MHHW and MLLW (Duke 2000a). This tidal prism represents 65 percent of the volume of the bay at MHHW. Therefore, tidal exchange produces considerable flushing of Morro Bay. However, the tidal prism corresponding to the smaller of the two daily tides, as well as the tidal prism during neap tides, is smaller than the 8,130 acre-ft estimate. The average flow through the bay entrance corresponding to this tidal prism is 16,000 cfs and the peak flow is on the order of 25,000 cfs. The contributions of the creek discharge and the plant intake flow must be added or subtracted to this tidal exchange flow to obtain actual flows through the bay entrance. Other than during storms, the creek discharge is small compared to both the tidal exchange and the proposed MBPP flow (for peak load) of about 6.3 percent of the average tidal exchange flow during the larger of the two daily tides. For smaller tides, the power plant flow represents a larger percentage of the tidal exchange, sometimes up to 9%.

Morro Bay is currently stressed by sediment accumulation. The sediment transport sources for Morro Bay are the creeks flowing into Morro Bay, wind-blown sediments (aeolian transport) and bay current-related deposition (littoral transport). Loss of sediment results from tidal flushing through Morro Bay's entrance and harbor dredging. A study of these factors indicates a net accumulation of about 37,000 cubic yards per year (Haltiner and Thor 1991). The resulting shoaling has occurred primarily at the head of the bay.

Salinity and temperature in Morro Bay vary seasonally and spatially. Because of limited fresh water inflow during summer and fall, high temperatures and hypersaline conditions can be prevalent in parts of the bay estuary. Near the intake, salinity and temperature is reflective of Estero Bay.

Water quality in Morro Bay is considered "impaired" by the RWQCB relative to sediments, pathogens and metals under Section 303(d) of the Clean Water Act. Elevated levels of bacteria are commonly detected in Morro Bay, particularly in the southern half. In recent years, sections of the bay's oyster beds have been closed due to coliform contamination (Duke 2000a). The sources of bacteria are cattle operations, urban run off from the community of Los Osos and the City of Morro Bay, and illegal dumping of sewage from boats.

Heavy metals and other toxics are found in Morro Bay sediments, but not at levels exceeding state and federal standards. These constituents are thought to originate from non-point sources and industrial activity in the watershed, and are transported to Morro Bay by Chorro and Los Osos Creeks. Water quality samples from the MBPP

cooling water intakes do not indicate concentrations of metals above applicable standards. Because the existing power plant does not discharge to Morro Bay, it is not thought to contribute metals or toxics to these sediments.

### Morro Creek

Morro Creek is located north of the existing tank farm, traversing the northern portion of the MBPP site and eventually discharging into the ocean, 2000 feet north of Morro Rock. The ephemeral creek, which has a drainage area of 24 square miles, consists of an incised channel within the terrace (USGS 2001). The channel was subsequently filled with fluvial sediments. At the site of the proposed facility, older and younger dune sand, estuarine deposits, and hydraulic fill also blanket the coastal terrace.

### Chorro Creek

The proposed Construction Staging areas and the Off-site Satellite Parking area would be located in the Chorro Creek watershed. The two ephemeral tributaries that receive runoff from the proposed sites are Lower Chorro Creek and Poison Oak Creek. Lower Chorro Creek lies to the north of Staging areas A – E and Poison Oak Creek is to the south of the aforementioned Staging Areas (Duke 2001l).

The Chorro Creek channel is constricted and meanders as it flows eastward from Camp San Luis Obispo to the Pacific Ocean at Morro Bay. Over the years, Chorro Creek has eroded and the drainage basin has become covered with alluvium that has originated from the nearby uplands.

## Flooding

The Federal Emergency Management Agency (FEMA) Flood Zone Map (1985), as part of the Flood Insurance Rate Map (FIRM), indicates that the proposed MBPP generating units will be within the 100-year floodplain. The remainder of the MBPP site is within an area between the 100-year and 500-year floodplain. The FIRM and Flood Insurance Study (FIS) depict the 100-year base elevation at 21 feet National Geodetic Vertical Datum (NGVD) (23.73 MLLW). The applicant indicates that the FIRM does not reflect the elevations of the existing berm/levee system that surrounds the tank farm where the proposed MBPP will be constructed.

The applicant has submitted a report entitled Morro Creek Flood Hazard Evaluation dated June 2001 (Duke 2001f). The applicant's hydraulic analysis used a calculated 100-year value of 14,900 cfs. This value was based on a regional regression equation and was published by FEMA (1985). See the **Impacts** discussion for more on potential flooding impacts.

# GROUNDWATER

## Aquifer Characteristics and Supply

Groundwater occurs at depths ranging from 3 to 15 feet beneath MBPP. The water table elevation varies from 12 feet above mean sea level (MSL) along the eastern facility boundary to an elevation three feet above MSL at the western edge (Duke 2000a). The Younger and Older dune deposits, estuarine and alluvial units are typically saturated or water bearing. Some groundwater occurs in fractures of the Franciscan

Formation and dacite but they are generally considered non-water bearing (DWR 1972; Duke 2000a).

Groundwater flow direction is west-southwest across the MBPP facility at a gradient of 0.0045 foot/foot. Groundwater is recharged by surface infiltration of rainfall and predominantly by flow in Morro Creek.

The Morro Creek watershed from the Pacific Ocean to the confluence of Morro and Little Morro Valleys is termed the Morro Basin. The Morro Basin is a small, coastal alluvial groundwater basin covering 810 acres and not exceeding 80 feet in thickness. The base of the water-bearing alluvium and dune deposits slopes westward from elevation 20 feet above MSL at the eastern edge to 60 feet below MSL at the coast (Cleath and Associates 1994). Cleath and Associates (1994) estimated total groundwater storage to be 3,247 acre-feet and that about 381 acre-feet is available as recoverable storage. Recharge along Morro and Little Morro Creeks is capable of fully replenishing the groundwater basin in years when measured streamflow is 3,000 acre-feet or more. Annual runoff of 1,200 acre-feet or less has resulted in water levels measured in City of Morro Bay wells to drop below elevation –20 feet MSL (Cleath and Associates 1994).

According to Bill Boucher, City of Morro Bay Public Services Department, the City of Morro Bay operates a municipal supply well field north of Morro Creek and west of Highway 1 (2001). Four supply wells (Wells 3, 4, 14 and 15) are located in Lila Kaiser Park approximately 1000 feet northeast of the proposed MBPP facilities. The City relied on these wells for 270 to 672 acre-feet of annual municipal supply from 1980 to 1997. Although the water is hard (mineral rich), its quality meets the State Primary Drinking Water Standards. Pumping during periods of low water table has allowed seawater intrusion to extend inland (DWR 1972; Cleath and Associates 1994). Since September 1997, the City of Morro Bay has had access to the State Water Project and has not relied on groundwater pumping for municipal supply. However, the State Water Contract for up to 1.17 million gallons per day is an interruptible supply. The City has appropriative rights to 581 acre-feet per year of groundwater from the Morro Basin. The Morro Basin groundwater source remains the City's primary supplemental supply in the event the State Water Project deliveries are interrupted. A planned interruption during the month of November 2001 required the City to rely on the Chorro well field and alternate water sources due to the discovery of methyl tertiary-butyl ether (MTBE) in the Morro Basin (refer to the following **Groundwater Contamination** discussion for more information on the MTBE plume). These alternate sources were barely adequate replacements for the Morro Creek Well field.

## Groundwater Contamination

There are both on-site and off-site concerns regarding groundwater contamination for the proposed MBPP project. At the existing site, small areas of groundwater contamination by total petroleum hydrocarbons (TPH) occur (Fluor Daniel, 1997). These areas are located near the Beach Valve Area, Distilled Water Tanks and the Switchyard. Groundwater testing for volatile organic compounds (VOCs), metals, polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) revealed these compounds were below detection limits and regulatory levels.

Groundwater quality measured in the shallow aquifer in 1997 (depth 5 to 20 feet below ground surface) is largely unchanged at the site since 1984 -1985 (Duke 2000a). Groundwater samples collected from 1995 to 1998 indicate water quality beneath the site meets drinking water standards except for sodium, chloride, manganese, and occasionally iron.

Off-site concerns are centered on the presence of methyl tertiary-butyl ether (MTBE) discovered in the vicinity of the City of Morro Bay's wastewater treatment plant in May-June, 1999. The release, which was detected in all effluent west of the intersection of Highway 41 (Atascadero Road) and Main Street, was traced to petroleum contamination at the Shell service station located at that intersection. The groundwater plume extends 400-feet west of the source located on the east side of Highway 1 (Miller Brooks Environmental 2001a and 2001b). The plume has not reached the City's wells (Rohrer, 2001).

The City of Morro Bay, the Central Coast Regional Water Quality Control Board (RWQCB), and the party responsible for the plume are aggressively pursuing delineation and remediation of the plume which threatens drinking water supplies in the Morro groundwater basin. Current remediation consists of High Vacuum Dual Phase Extraction (in the site vicinity) and continuous groundwater pumping along Highway 1. Work conducted in June 2001 included a 48-hour aquifer test of one or more City wells to provide data for a groundwater flow model. This model has aided in the design of a successful treatment strategy and is intended to help predict any effect from additional pumping in region, such as the wells used for the MBPP (Rohrer 2001). The overall schedule for remediation includes starting an expedited pump and treat system in November 2001 that is intended to contain and remove the MTBE plume.

At the request of the RWQCB, Duke Energy samples and tests the North Well, located immediately south of Morro Creek and between Highway 1 and the bike path, for MTBE on a quarterly basis. MTBE has not been detected at the North Well (White 2001).

## SOILS

The MBPP site as well as the offsite parking and staging areas are located along the Santa Lucia Range immediately adjacent to Morro Bay. The power plant site is underlain by fill with an average depth of about eight feet. The fill is generally comprised of sand and gravel material. The fill overlies Holocene age alluvium and bay deposits. The alluvium and bay deposit material consists of sand, gravel and marine clay with underlying fractured sandstone and shale deposits. The current elevation of the MBPP site ranges from approximately 15 to 23 feet above mean lower low water level (MLLW). The existing elevation in the area of the proposed MBPP project site is about 23 feet above MLLW (Duke 2000a). The new units will be located within the existing fuel tank farm. Surface characteristics include areas of gravel and exposed soil with sparse vegetation.

The majority of the proposed MBPP will be located on the Psamments and Fluvents soil type. The extreme western portion of the tank farm, including the area of the Den Dulk property where the discharge lines will interconnect, consists of the Dune Land soil type. The Psamments and Fluvents soil type has a sand to loamy sand texture. These

soils may contain thin layers of sandy loam, silt or gravel. The erosion hazard is classified as moderate. Because of the rapid permeability, low to very low available water capacity, and nutrient deficiencies associated with larger textured soils, this soil type poses limitations on vegetal establishment. The Dune land soil type is sandy textured with very rapid permeability. The erosion hazard is high. Limitations associated with the Dune land soil type would be similar to the Psamments and Fluvents (Duke 2000a). It should be noted that previous filling activities occurred at the MBPP. Therefore, site conditions are not representative of the native soil conditions described in the soil survey. The average depth of the fill is approximately 8 feet and consists of a heterogeneous mixture of sand, silts, and other fill-related materials (Duke 2000a).

The soil type for the off-site staging areas and satellite parking is the Cropley clay soil type. This soil type formed in alluvial material that was weathered from sedimentary rocks. The upper 36 inches of the soil horizon consists mostly of clay material, depths beyond 36 inches transition to a calcareous silty clay loam, and eventually to coarser material beyond 40 inches. The Cropley soil exhibits slow surface runoff; thus, the erosion hazard is slight. Permeability is slow, available water capacity is high, and the rooting depth is approximately 60 inches making this soil suitable for vegetal growth. Limitations associated with the Cropley soil type include low soil strength (hard to pack) and a high shrink-swell potential. It should be noted that the true soil horizons have been altered over the years at the Camp San Luis Obispo Staging Area and the Satellite Parking Area due to development and agricultural activities.

### Soil Contamination

Soil contamination by petroleum hydrocarbons is evident near the Beach Valve Area, Fire House No. 1, former transformer oil lines in the Switchyard and oil circuit breakers 422, 432 and 442 also located in the Switchyard. Remediation of contaminated soil at the oil transfer pond was completed in 1997 (Personal Communication, James White, Duke Fluor Daniel, 2001). Limited testing within the aboveground fuel oil Tank Farm identified minor TPH contamination extending down to the soil-groundwater interface. No soil sampling or testing has been conducted beneath the existing oil tanks (PG&E 1997b; PG&E 1997c). Please refer to the **Waste Management** section of the FSA for further discussion regarding soil contamination.

## EXISTING MORRO BAY POWER PLANT

The operation of the existing power plant is discussed here because very similar operational activities will take place at the proposed power plant. Information regarding the proposed power plant is included in the next section, but some information is presented here for comparison with the existing power plant operation.

The proposed MBPP project will be located on the northwestern portion of the existing Morro Bay Power Plant industrial site in the City of Morro Bay, San Luis Obispo County. The existing power plant is comprised of 4 conventional steam generating power plant units. Units 1 and 2 were built in the 1950's and began operating in 1955-56, while Units 3 and 4 began operating in 1962-63. The rated total plant output of the existing plant is 1,002 MW (DUKE 2000a). The technology used at the existing plant produces high-pressure steam in a boiler fueled by natural gas that directs that steam to a steam

turbine that drives a generator and produces electricity. Duke is proposing to replace these units with state-of-the-art combined cycle units that will generate a total of 1200 MW.

## Water Supply

The existing plant draws seawater from Morro Bay Harbor for cooling. The existing seawater intake structure is located across the Embarcadero from MBPP in Morro Bay Harbor and consists of a grating to block the intake of large debris, traveling screens that are periodically washed to remove smaller debris, eight circulating water pumps (two per unit) and related auxiliary equipment. Units 1 and 2 currently use 184,000 gallons per minute (gpm) (264 Million Gallons/Day) and units 3 and 4 use 280,000 gpm (403 MGD) for a total seawater-cooling requirement of 464,000 gpm (667 MGD). After passing through the plant's condensers and absorbing the heat from the steam turbines, the heated water is returned to the ocean via three separate discharge tunnels (one for units 1 and 2 and separate tunnels for units 3 and 4). The discharge for the four units flows into a common canal for a short distance prior to entering Estero Bay at the shoreline just north of Morro Rock (DUKE 2000a).

Other water requirements for the existing plant include make-up water for the steam cycle of units 1-4, equipment washdown, potable and sanitary uses, and firewater supply. Makeup for the existing boilers is supplied by seawater brought in from the once-through cooing system. Approximately 980,000 gallons per day (680 gpm) are drawn from the cooling water after passing through the plant condensers and treated in the on-site evaporator system. This amount of water is required to produce approximately 250,000 gpd (174 gpm) that is used in the boilers as steam cycle make-up to replace water that is lost by blowdown and miscellaneous losses.

According to James White of Duke/Fluor Daniel, the existing MBPP produces groundwater from two wells located in the north part of the site for use at the site (2001). The North Well is located immediately south of Morro Creek and between Highway 1 and the bike path. The South Well is also between the highway and the bike path approximately 350 feet south of the North Well. The North Well is the primary supply and the South Well is used for back-up and peak supply. The well water is pumped into a standpipe to meet demand within the power plant and the adjacent PG&E switchyard. Fresh water from the wells will be used intermittently for washing equipment, as well as for the potable and sanitary requirements. Fresh water from the wells is also stored onsite and replaced as required for the firewater system. Well production is not metered but daily flows are estimated to be 10,000 gallons and during maintenance periods more than 80,000 gallons per day may be used for short-term activities such as stack washing, boiler fireside washing, and air preheater washing. (DUKE 2000a).

### Cooling Water Withdrawal

The existing Morro Bay Power Plant withdraws up to 464,000 gpm (667 MGD) from Morro Bay. This volume is about 6.3 percent of the average tidal exchange volume (during the larger of the two daily tides). This percentage increases to about 9 percent for smaller tides. The relative volume of water the plant uses compared to the tidal exchange volume suggests that the plant effect on tidal flows in Morro Bay is relatively small. This effect is largely limited to the portion of the bay between the plant intake

and the bay entrance. Upstream of the power plant intake, the effect on the bay water and circulation is expected to be minimal. Duke Energy sponsored a detailed study of water level and current measurements, which concluded that while creek inflow affects the tidal flows in the interior of Morro Bay, the Morro Bay Power Plant intake and discharge do not. (Jay 2001)

## Wastewater

The on-site wastewater collection system operates under the plant's existing NPDES permit. All plant wastewater streams that contain regulated constituents are treated prior to discharge to achieve allowable limits. Currently, sources of wastewater that are generated by the power plant operation and maintenance include seawater that has been circulated through the plant condensers, discharge of intake screen wash, evaporator blowdown, boiler blowdown, bearing cooling water, floor drain water and other miscellaneous plant liquids. The seawater cooling system, including the screenwash water, discharged an average of approximately 504 million gallons per day (mgd) from June 1999 to June 2000, which is the highest flowrate in recent years but is still lower than the maximum permitted limit of 725 mgd. The annual average boiler blowdown, plant washdown, and evaporative blowdown total approximately 100,000 gpd. Additional waste discharge streams that are routed to the cooling water outfall in Estero Bay include process wastewater that has been routed through an oil/water separator, equipment washdown water, basement sump water, and stormwater. The oil/water separator discharges an average of 5,000 gpd of plant wash water and precipitation runoff from roof drains, and storm drains in the area of the boiler fans. Stormwater from general plant areas such as parking lots, roads, and other non-industrial areas currently flow directly to Willow Camp Creek, then to Morro Creek and to Estero Bay.

The site is serviced by a sanitary lift station for domestic wastes that are collected and sent to the local sewer system.

### Cooling Water Discharge

Currently, the existing power plant discharges cooling water to Estero Bay, just north of Morro Rock, through a surface channel. The discharge flowrate is up to 1,000 cubic feet per second (cfs) and the discharge temperature rise is up to 20$^{o}$F. The flows and/or temperature rises are smaller when the plant load is less than capacity. The channel has a bottom width of 50 ft and side slopes of about 45 degrees. The channel bottom elevation at the discharge point is 5.5 ft below MLLW. The channel is partially obstructed by large rocks at the point where it enters Estero Bay.

Duke Energy has implemented a research program to characterize the thermal discharge from the Morro Bay Power Plant (DUKE 2000a - Appendix). A report describing results of the investigations, the Thermal Discharge Assessment Report (DUKE 2001t), has been issued, and much of the following assessment is based on this report.

The thermal discharge study plan called for a multi-pronged approach including the following elements that are used to study the plume:

- Fixed temperature recorders were deployed at about 35 locations. Among those, some are stationary recorders measuring temperature at a fixed elevation, and many are floating recorders measuring temperature at a fixed depth below the water surface. At several floating recorder locations, multiple recording depths were implemented. Floating recorders are preferable for thermal plume characterization because they maintain the same depth below the surface at all times. The temperature variations measured by stationary recorders are due to both variations of water surface elevation and variations in plume temperatures. The temperature recorders record temperature at approximately 20-minute intervals for an extended period of time.
- Aircraft-based Infrared photography provided instantaneous images of the thermal plume, but in-the-water actual temperature measurements are required to relate the photographic patterns to actual temperatures. Photographic surveys were conducted on nine days from November 2000 to January 2001, with several surveys typically conducted each day to capture the plume at different times in the tidal cycle.
- Periodic boat-based surveys with two vessels, one for deep water and one for the surf zone were conducted. Measurements in the surf zone, however, were found to be impractical and were abandoned. Measurements from the boat were conducted using temperature recorders at the surface and at 3- and 10-ft depths. The objective of the boat surveys is to provide temperature maps as well as calibration of the aerial infra red surveys. Boat surveys were conducted in July 1999, October, November and December 2000, and January 2001 (Duke 2001x).
- Wind and wave conditions were recorded for the days of the surveys, as well as the thermal load discharged by the plant.

An important element in the characterization of thermal plumes is the definition of the natural, or background temperature, i.e. the temperature that would have occurred in the absence of the thermal discharge. For this assessment, temperatures measured at the Estero Bay buoy, approximately 2.3 km northwest of the discharge point were used. This distance is large enough to minimize plant effects, although it appears that, occasionally, temperature rises of 1 to 2$^{o}$F at the buoy are attributable to the plant (DUKE 2001t).

During the summer, water temperatures in Morro Bay often rise above Estero Bay temperatures due to solar heating in the shallow, quiescent water environment. However, because the plant intake is near Morro Bay's entrance and at depth, intake temperatures are not significantly different from Estero Bay temperatures. Measurements indicate that *average* intake temperatures were up to 1.3 $^{o}$F higher than Estero Bay background temperature in June, with smaller rises from February to October. However, these temperature differences are variable and can exceed 3$^{o}$F in the summer (DUKE 2001t).

### *Plume Configuration*

The thermal surveys show varying thermal plume configurations during a tide. During flood (rising waters), currents are predominantly towards the north and the plume

travels in a northwesterly direction. During ebb (falling waters), currents are largely to the south and the plume wraps around Morro Rock. The effects of waves and wind add to these basic features. Because the predominant wave direction is from the west-northwest, a southerly alongshore current develops in the near-shore zone, which frequently keeps the plume from the beach, and pushes it against Morro Rock (DUKE 2001t).

The power plant electricity generation production level varied from 26 percent to 100 percent of capacity during the monitoring period, with most of the surveys being at above 50 percent of capacity. The power plant production levels during the monitoring period represent actual conditions, and therefore provide an indication of actual impacts. However, it is likely that the new plant will be used at a level closer to its capacity than the existing plant. This must be taken into account when extrapolating current results to future conditions.

### *Size of 4°F Temperature Rise Isotherm*

Maps of the 4°F temperature rise isotherms (lines of constant temperature) were developed for eight instances between November 2000 and January 2001. Power plant production levels during these surveys varied from 63 to 85 percent of capacity. The length of the 4°F temperature rise isotherms for these surveys varied from 2,000 to 5,000 ft from the discharge point (DUKE 2001t).

## PROPOSED MBPP PROJECT

The proposed Morro Bay Power Plant (MBPP) will be comprised of two (2) new combined cycle units each rated at a capacity of 600MW. Each unit will include two natural gas fired General Electric model PG7241 “7FA” combustion turbines and one steam turbine generator operating in a combined cycle mode producing approximately 618 MW gross power at design conditions of 64.1°F ambient. The steam cycle will use demineralized water to create steam in the heat recovery steam generator (HRSG) to drive the steam turbine. Supplemental duct firing will be used for periods of peak operations to produce additional power during which time the maximum steam is produced. During duct-firing, steam will be produced at 1,725 pounds per square inch (psi) at 1,055°F and will flow to the steam turbine throttle inlet (DUKE 2000a). Maximum cooling water supply will be required during these periods.

## Water Supply

### Cooling Water

The steam used to produce power in the steam turbines will be cooled in a condenser that will use a once-through ocean water-cooling system that extracts seawater from Morro Bay using the existing power plant intake structure (DUKE 2000a). The water used for cooling the condenser is called circulating cooling water. The eight existing circulating cooling water pumps will be replaced with eight new pumps, each with an operating capacity of approximately 41,250 gpm (59 MGD). New pipelines will be installed on site to connect the combined cycle units to the existing Units 1-4 cooling water supply and discharge conduits. The cooling water return will utilize the existing Units 1 through 4 discharge tunnels (DUKE 2000a). After the new units are operational,

the existing units will be demolished and the new units will continue to utilize the cooling water supply system.

The circulating cooling water requirements for each of the combined cycle units is expected to be approximately 165,000 gpm (237 MGD) when the unit is operating at maximum output. Thus the total circulating water requirement for the new plant will be approximately 330,000 gpm (475 MGD), which is lower than the existing circulating water flow requirements for units 1-4 of 464,000 gpm (667 MGD) at maximum production. However, the actual cooling water volume used during the last 15 years is well below the maximum amount, and less than the new power plant will be permitted to use (refer to the **Biological Resources** section for more discussion).

### Process Water

The primary water demand other than cooling water will be makeup water for the steam cycle to replace HRSG blowdown and steam losses. The project will use demineralized water to meet this demand. The demineralized makeup water is produced from seawater that has been desalinated by an existing vapor compression evaporator system followed by a polishing demineralizer. The polishing demineralizer is supplied by a contractor who removes it from the site periodically for regeneration, eliminating on-site requirements for chemicals or waste discharges for the regeneration process. A portion of the HRSG blowdown will also be collected and recycled to the demineralizer for re-use as makeup.

The average steam cycle makeup water demand will be approximately 57,600 gallons per day (gpd) (40 gpm) per combined cycle unit when operating at 100% capacity, for a total of approximately 115,000 gpd (80 gpm). Of the 115,000 gpd (80 gpm) requirement, approximately 80,600 gpd (56 gpm) is recovered blowdown from the HRSG and approximately 34,600 gpd (24 gpm) is distilled water that is generated from a seawater evaporator. The flow of 115,000 gpd (80 gpm) required for the steam cycle makeup for the combined cycle units compares with the 250,000 gpd (174 gpm) of treated water required in the existing units 1 through 4 for steam cycle makeup. In addition to HRSG makeup, demineralized water, is used to periodically wash the combustion turbine as well as other miscellaneous combined cycle systems requiring high purity water (Duke 2000a).

### Utility Water

Other plant water uses that do not involve process water include utility services such as wash down of equipment areas, potable and sanitary use, emergency eyewash and shower stations, landscaping, and firewater. These additional water demands at the proposed facility are estimated to remain at 10,000 gpd (7 gpm) which is supplied by the plant's two groundwater wells. The water from these wells will be treated with chlorine prior to use in the plant for domestic purposes (DUKE 2000a). No groundwater is used for cooling at MBPP. Peak flows are not expected to exceed the 80,000 gpd (56 gpm) NPDES permitted maximum used during short-term maintenance activities such as HRSG washdowns (DUKE 2000a). Peak groundwater demand will occur during demolition of the Tank Farm and during grading to control dust. This use, combined with the continued domestic demand for the operation of the existing plant, will result in demands of 30,000 to 42,000 gpd (21 to 29 gpm) during three separate periods of

demolition, estimated to be 3 to 9 months in duration each (Duke 2001). Peak demands of 47,000 to 70,000 gpd (33 to 49 gpm) will occur during construction of the new plant for a period of 9 months. Typical demands of 10,000 gpd (7 gpm) are anticipated during approximately 46 months of the 72-month construction period. During operation of the new MBPP, fresh water demand for domestic and landscape irrigation uses is estimated to average 10,000 gpd (7 gpm) and reach peaks of 15,000 gpd (10 gpm) (Duke 2000a).

### Intake Maintenance and Operational Modifications

Dredging to control sediment build up that could partially block the cross-sectional area of the intake structure is an appropriate measure. Sediment build up reduces the flow area cross-section and increases flow velocities through the intake structure. The applicant has indicated that the new combined cycle units will have multiple cooling water pumps which will allow reduced cooling water flows at less than maximum capacity operation when possible. Operation in this manner can reduce the velocities through the intake system periodically and thereby possibly reduce entrainment and impingement. However, heat loading to the receiving waters may or may not be reduced since it is a factor of water volume and heat that needs to be dissipated. Reduced water volume may result in higher discharge temperatures.

## ENVIRONMENTAL IMPACTS

## PROJECT SPECIFIC IMPACTS

## Surface Hydrology

### Stormwater Runoff

Stormwater runoff is currently routed through an existing on-site stormwater system and discharged into Willow Camp Creek. Runoff from industrial portions is directed to retention areas where it is monitored, sent to oil/water separators, and then discharged into Morro Bay. The applicant has indicated that the current discharge to Willow Camp Creek would be discontinued and rerouted to Morro Bay. No stormwater runoff that exceeds NPDES requirements will occur.

The applicant has indicated that the amount of impervious area associated with the proposed MBPP will increase; therefore, post-development runoff will exceed the pre-development conditions. The stormwater system for the proposed MBPP project will discharge into the existing system (Duke 2000a). Proposed MBPP site drainage facilities would be designed for a minimum 25-year frequency runoff event with safe overland flow or system capacity for the 100-year event. The applicant has submitted preliminary hydrologic and hydraulic calculations for a 25-year frequency rainfall event that analyzed the existing stormwater system and the same system with the additional inflow from the proposed MBPP site. Their results indicated that while the outlet pipe discharge increased from 17 cfs to 30 cfs, the hydraulic grade lines were still below the inlet elevations. A review of the analysis indicated that the methodology used and the results were reasonable. In addition, the applicant indicated that the new MBPP site “will

be designed such that the tops of the foundations and building finish floor elevations will be above the surrounding road and finish grade elevations to prevent inundation during the 100-year storm event" (Duke 2001s).

Because the stormwater discharge will be permitted under a General NPDES permit for Stormwater Discharges from Construction and Operational Activities, the applicant will be required to develop a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would consist of Best Management Practices (BMPs) that would be utilized to prevent contaminated runoff from entering Morro Bay. Please refer to the **Mitigation** portion of this section for more details. Therefore, impacts to water quality related to runoff would be less than significant.

**Flooding**

The existing 18-foot high berms are at an approximate elevation of 33.9 feet (MLLW). The 100-year and 500-year flood elevations are approximately 23.73 feet (MLLW) and 25.73 feet (MLLW), respectively (Duke 2000a).

Energy Commission staff has reviewed the applicant's Morro Creek Flood Hazard Evaluation. That report developed water surface profiles based on a total 100-year flow of 14,900 cfs. Two hydraulic computer programs were used: HEC-RAS and FLO-2D. Using the HEC-RAS program, the 100-year water surface elevations in Morro Creek north of the proposed MBPP site was estimated to be in the same range as shown on the 1985 FEMA map (21-25 MLLW). The FLO-2D program is better suited to this flood analysis because it allows overbank flows to travel in different directions. The flow pattern at this site is relatively complex with flows traveling west along Morro Creek and north and southwest in the overbank areas. The results of using the FLO-2D model are that the water surface elevations at Morro Creek north of the proposed site are lower (17 feet – 21 feet MLLW) than the 1985 FEMA water surface elevations. This is primarily due to a significant portion of the flow leaving Morro Creek upstream of the facility which reduces the flow continuing down Morro Creek as Morro Creek passes by the proposed MBPP site.

The results of the FLO-2D appeared reasonable. The applicant has indicated that they will be submitting the hydraulic analysis and geotechnical information to FEMA requesting a Conditional Letter of Map Revision (CLOMR). FEMA will be reviewing the information and the FLO-2D model input and results in detail before they will issue the CLOMR.

The applicant has indicated that the existing berm elevations exceed the 100 and 500-year base flood elevations and that the FIRM does not reflect the berm and dike system. The portion of the tank farm that will include the proposed MBPP is currently depicted as occurring in the 100-year flood zone; however, the dike and berm system may be adequate to eliminate flood concerns. FEMA will evaluate the adequacy of the dike and berm system during their CLOMR review. If it is deemed adequate, FEMA will grant the CLOMR, which staff recognizes as appropriate mitigation for flooding concerns. If the CLOMR is not granted, FEMA will require that the applicant implement more stringent mitigation. The applicant has also indicated that the dike and berm and any other portions of the project within the 100-year base flood elevation would be

designed to comply with the City of Morro Bay Flooding Ordinance (Duke 2000a). Because the applicant will be required to go through the CLOMR process, no significant impacts are expected from flooding. Please refer to the **Mitigation** portion of this section for further discussion of potential flooding impacts.

## Groundwater Supply and MTBE Plume Migration

The applicant estimates that the permeability of the aquifers are medium to high based on the nature of the water bearing zones. No pumping test data, pumping records or aquifer parameters have been provided for the deep aquifers that are tapped by the supply wells. MBPP uses the maximum daily pumping limit of 80,000 gallons to estimate the maximum pumping rate of 55 gpm. Based on the low pumping rate, high permeability of the aquifer and cross-gradient location relative to the City wells, the applicant concludes that no pumping interference is anticipated to impact the nearest City well (Duke 2000a).

Staff analyzed two potential impacts related to groundwater pumping at MBPP. Both impacts could occur during construction when groundwater demand is the greatest. During those times, well interference at the nearby City wells may exceed the levels that occur under typical pumping by MBPP. The peak average demands of 60,000 gpd and 40,000 gpd for construction periods of six and twenty months, respectively, could potentially cause well interference, lower the water level, and modify the local flow direction near the City of Morro Bay wells. If this period coincides with seasonal low water levels in the summer and fall, well yields for both the City and the MBPP wells could be diminished.

The second impact involves modification of the local groundwater gradient to the extent that it may cause the MTBE plume located northeast of the project to migrate toward the supply wells. Sustained pumping by the MBPP wells could potentially alter the migration path of MTBE contaminated groundwater, encourage migration toward the City or MBPP wells, and impact efforts to control and remediate the MTBE plume.

Staff has identified mitigation measures that are feasible and that will sufficiently mitigate these impacts to a less than significant level. Please refer to the **Mitigation** portion and **Conditions of Certification** (**COCs**) for more information.

### Contaminated Groundwater/Soils

Construction of the new power plant facilities will require demolition and removal of the above ground fuel oil Tank Farm. Grading and excavation in this area may encounter hydrocarbon-contaminated soil and groundwater. No significant soil contamination was discovered at borings located between the above ground tanks but sampling and testing beneath the tanks was not possible. Trenching for the new cooling water influent and effluent pipelines will pass through the Tank Farm and the existing Beach Valve Area. Hydrocarbon contaminated soil and groundwater were identified at the Beach Valve Area. Excavation of contaminated soil and groundwater should be anticipated in the trenches for the proposed effluent cooling water pipeline in this area (PG&E 1997b; PG&E Table 3-14). Energy Commission staff is currently coordinating with the Central Coast Regional Water Quality Control Board regarding onsite contaminated soils and groundwater issues.

Improper handling and/or disposal of contaminated soils and groundwater can lead to worker safety issues and impair the beneficial uses of soil and water resources. Refer to the **Waste Management** section of the FSA and the **Mitigation** portion and **COCs** of this section for further discussion of the contaminated soils and groundwater issues and measures that can be implemented by the project to avoid these impacts.

## Soil Erosion and Sedimentation

Accelerated wind and water-induced erosion may result from earthmoving activities associated with construction of the proposed project. Activities that expose and disturb the soil leave soil particles vulnerable to detachment by wind and water. Most of the annual precipitation in the Morro Bay area occurs during the mild, wet winters. Prolonged periods of precipitation, or high intensity and short duration runoff events coupled with earth disturbance activities can result in onsite erosion eventually increasing the sediment load within nearby receiving waters. However, via the implementation of Best Management Practices (BMPs) such as silt fences, limiting exposed areas, immediate stabilization of graded areas, diversion ditches, and sediment traps would reduce impacts related to erosion and sedimentation for all earthmoving activities to less than significant. Please refer to the **Mitigation** section and the **COCs** for more information.

### Power Plant Construction and Operation

The applicant has indicated that approximately 8 acres of land associated with the MBPP would be disturbed during construction (Duke 2000a). The applicant indicates that the total disturbed area within the confines of the old tank farm would be approximately 19.3 acres (Duke 2001u). Site excavation work would consist of the removal, storage, and/or disposal of earth, sand, gravel, vegetation, organic matter, loose rock, boulders, and debris to the lines and grades necessary for construction. Refer to the **Geology and Paleontology** section for further discussion on geotechnical impacts. Suitable materials for backfill would be stored in stockpiles at designated locations. The applicant indicates that approximately 39,000 cubic yards (cy) will occur as excess soil material. Some of the material will be utilized at the offsite construction staging areas or other offsite locations that may utilize or stockpile clean fill. The proposed roads, bridge, and bike path would consist of approximately 7,000 cy of cut and 10,000 cy of fill (Duke 2001v). No significant impacts are expected with implementation of BMPs. Refer to **Staff Proposed Mitigation** and **COCs** for further discussion of erosion control measures.

Backfilling activities would involve the removal of unsuitable material and rocks, followed by proper compaction techniques. Embankments, dikes, bedding for buried piping, and backfill surrounding structures would be compacted (Duke 2000a). The base floor elevation for all structures would extend approximately 6 inches above the final grade. In order to achieve positive drainage, the final grade will slope away from all structures between 1 and 2 percent (Duke 2000a).

As required by the NPDES permit, a Storm Water Pollution Prevention Plan would be implemented to minimize erosion from construction activities. Also, an erosion control and revegetation plan that addresses standard erosion runoff and sedimentation techniques would be developed and implemented for construction and operational

phases. Implementation of these plans will reduce potential erosion and sedimentation impacts to an insignificant level.

### Pipeline Construction and Operation

Temporary and permanent disturbances related to construction of linear facilities (pipelines) are expected to occur within the existing MBPP site. Pipeline construction for stormwater runoff, cooling water intake and discharge, and natural gas will be limited to onsite tie-ins. The outfall pipelines would tie-in to the existing pipeline that is located approximately 300 feet south of the MBPP site. A 12"-diameter natural gas pipeline will extend from the northeastern portion of the site and connect to the existing PG&E regulator station. Approximately 40 feet of the pipeline would be constructed across Willow Camp Creek via a trenching method. Because the pipeline would be located within the bed and banks of the creek, an Army Corps of Engineers Section 404 permit and a California Department of Fish and Game 1601 Streambed Alteration Agreement need to be obtained (See the **Biological Resources** section for more information). The applicant indicates that the stream crossing activity would take place during dry conditions and construction should be limited to approximately 4 days. Trench width would be about 11 feet wide with an additional 15 feet for storage of the excavated material. Excavation depth is anticipated to be about 6 feet. The excavated material will eventually be hauled to a nearby area outside of the creek bed and surrounding riparian area (Duke 2001 "project description mods."). Because mitigation measures will be implemented, no significant erosion and sedimentation impacts are expected to occur. Refer to the **Applicant Proposed Mitigation section** of this section for further discussion of Best Management Practices (BMPs) to be employed during the pipeline trenching activity.

Sanitary wastewater will be routed to the Morro Bay municipal sewer system (Duke 2000a).

All linear facilities, with the exception of the discharge pipeline interconnections, will be located in the northeastern portion of the site, which is currently covered by asphalt and ruderal vegetation (gas pipeline extension). The discharge pipeline interconnections will traverse across dune sands located on the Den Dulk property located to the south of the site. As part of the proposed MBPP project, the applicant has purchased a portion of the Den Dulk property. No significant erosion and sedimentation impacts are expected. Refer to the **Land Use** section for further information regarding the acquisition of the aforementioned land.

### Transmission Facilities

No earthmoving will be required for the proposed transmission line interconnection; therefore, no significant impacts are expected. The 230 –kV interconnection will be from the existing PG&E switchyard, a distance of approximately 300 feet to the gas and steam turbine generators (Duke 2000a).

### Roads

An onsite road system will consist of constructing access roads into and around the proposed MBPP. An access road will be constructed at the southwestern portion of the facility and connect with the existing onsite road system. The proposed "loop" road

around the facility would be approximately 20-feet wide (Duke 2000a). Because mitigation measures will be implemented, no significant erosion and sedimentation impacts are expected.

### Bridge Crossings

A 24-ft. wide bridge is proposed over Morro Creek and will create a continuous road system for Embarcadero Road MBPP. The bridge will be supported by abutments and will create a minimal 5-foot height above the banks of Morro Creek (Duke 2001u). Staff has been informed by the U.S. Army Corps of Engineers that a Section 404 permit would not be required for this activity because the bridge abutments would be located outside of the jurisdiction of Waters of the United States; however, a Section 10 permit would be required for the aforementioned project (Henderson, 2001). Because mitigation measures will be implemented, no significant erosion and sedimentation impacts are expected. Please refer to the **Mitigation** portion for a discussion of permits associated with the proposed bridge crossing activity.

An approximate 8-ft. wide temporary footbridge would be placed across Willow Camp Creek to serve as an access for construction workers to the Craft Parking Lot and Construction Staging area. The location of the footbridge would be in the northeastern portion of the site. Earthwork for placement of the bridge would be limited to areas outside of the bed and banks of the creek; therefore a Section 404 permit would not be required for this activity. No equipment would enter the streambed during construction; however, a 25-ft. corridor of vegetation would need to be removed. The bridge crossing over Willow Camp Creek would be supported by an existing, non-functional, 24-inch fuel pipeline (Duke 2001 "project description mods.). No significant impacts to soil and water resources are expected due to implementation of recommended mitigation measures. Refer to the **Applicant Proposed Mitigation portion** of this section for further discussion of Best Management Practices (BMPs) to be employed during the footbridge construction activity.

### Bike/Pedestrian Paths

The applicant proposes to construct two new bike/pedestrian paths in the vicinity of the MBPP. A Class I path will be constructed along the south side of the MBPP to provide access from Main Street to Embarcadero. A Class II path will be constructed to link an existing Class I path along Embarcadero Road. The existing Class I path along Embarcadero Road will transition into a Class II path as it crosses over the proposed Morro Creek bridge and continues northward towards Highway 1. The additional bike/pedestrian paths will create a loop around the MBPP (Duke 2000a). Because mitigation measures will be implemented, no significant erosion and sedimentation impacts are expected.

### On-site Craft Parking Lot and Construction Staging Area

The Craft parking area would be located at the northeastern portion of the site south of Morro Creek and east of Willow Camp Creek. This approximate 5-acre site is relatively flat and would be graded so that potential sediment laden runoff or accidental spills would be contained onsite. The approximate 5-acre construction staging area would be located east and south of the PG&E switchyard in the vicinity of the previously proposed

parking area. Because of relatively flat topography, grading will be minimal and in similar fashion to the proposed Craft parking area (Duke 2001 "project description mods.). Because mitigation measures will be implemented, no significant erosion and sedimentation impacts are expected. Refer to the **Applicant Proposed Mitigation section** of this section for further discussion of Best Management Practices (BMPs) to be employed during the aforementioned construction activities.

### Construction Staging Areas at Camp San Luis Obispo California National Guard

An off-site construction staging area is proposed at Camp San Luis Obispo to accommodate construction materials and equipment, worker parking, and office space. This site is located approximately 5 miles northwest of the City of San Luis Obispo and 8 miles southeast of Morro Bay. The 40-acre site would be divided into 5 staging areas listed as A-E. Earth moving activities would disturb approximately 29 acres. Road improvements would be needed to provide a construction entrance and accessibility for wide vehicles. The earthmoving activities for such improvements would occur from the turnoff from O'Connor Way into Staging Area C/D and at the Foothill Road intersection (Duke 2001l).

Because the site is mostly flat, grading activities would be minimal. The site would be covered with a geotextile fabric and overlain by crushed rock. No grading is needed for Staging Areas A and C due to the existing asphalt and buildings in their vicinities. Upon demobilization, the site will be stabilized via vegetation (Duke 2001l). No significant erosion and sedimentation impacts are expected with implementation of the proposed mitigation measures. Please see the **Mitigation** and the **Conditions of Certification** portions of this section.

## Water Quality

Wastewater disposal can lead to soil, surface, and groundwater degradation and impairment of beneficial uses.

### Wastewater Discharge

Duke Energy proposes to discharge the heated cooling water from the proposed units to the existing units 1 through 4 outfall. Even though there are differences in cycle design between the conventional Units 1-4 steam cycle and the MBPP combined cycle that use combustion turbines to generate most of the power, on average, more or similar amounts of water are expected to be discharged to Estero Bay. Most of the other waste discharge streams are comparable on an intermittent basis. A comparison of the wastewater discharge flowrates between the existing units and the proposed units is shown in SOIL & WATER RESOURCES Table 3 below.

**SOIL & WATER RESOURCES TABLE 3**
**Average Annual Wastewater Discharge**

| Waste Discharge | Units 1-4 Actual Flow Kgal/day (gpm) | New MBPP Permitted Flow Kgal/day (gpm) | Discharge/Recycle Location |
|---|---|---|---|
| Circulating Water | 404,400[a] (283,300) | 475,000 (329,800) | Estero Bay |
| Evaporator Brine | 240 (166) | 240 (166) | Estero Bay |
| HRSG Blowdown | 50 (35) | 81[b] (56) | Demineralizer |
| Floor/Equipment Drains[c] | 75 (52) | 75 (52) | Oil/Water Separator |
| Oil/Water Separator Water | 75 (52) | 75 (52) | Estero Bay |
| Oil/Water Separator Oil[c] | <1 (<1) | <1 (<1) | Off-site Disposal |
| Sanitary Wastes[c] | 5 (3.5) | 5 (3.5) | Sewer |

a – actual water use data filed with CCRWQCB for the last 15 years.

b – From Appendix 8-2

c – Intermittent flows

Sources: DUKE 2000a Pages 6.5-11, 6.5-65; CCRWQCB water use data.

The current plant is operated under a NPDES permit (No. CA 0003743) last reissued on March 10, 1995 by the Central Coast Regional Water Quality Control Board (Duke 2000a - Appendix). This permit allows the plant to discharge a maximum flow of up to 503,000 gpm (724 MGD) of cooling water to Estero Bay at a temperature increase of up to 30°F above the temperature of the intake. The applicant is expecting that the temperature rise for the new combined cycle units will be 20°F at maximum plant load (DUKE 2000a). It was noted in the **Environmental Setting** discussion of this section that the current withdrawal had minimal impact on flows in Morro Bay upstream of the intake (Jay 2001). As the proposed withdrawal is slightly greater or similar in magnitude than that used during the last 15 years, its impact on flows should be similar. The cooling water withdrawal is considered by Jay (2001) to have minimal to no impact on sedimentation in the portion of Morro Bay upstream of the intake, which includes the majority of the bay. The effect of the cooling water system on the biological resources of the bay is covered in the **Biological Resources** section of this FSA.

Based on the greater or comparable wastewater discharge flows from the proposed MBPP as compared to the existing power plant, staff concludes that there will be no significant adverse impacts for the area of wastewater discharge when compared to the operation of the existing units 1-4. Please refer to the **Mitigation** section of this FSA for a discussion regarding NPDES compliance. See the **Biological Resources** section for further discussion of ecosystem impacts.

### *Thermal Discharge*

Duke Energy is proposing to discharge the cooling water from the new plant to Estero Bay through the existing discharge channel. As indicated above, the average flowrate will be greater or similar to the existing MBPP. At the same time, the discharge temperature rise will decrease from 22°F to 20°F at peak flow rate (Duke 2000a). In contrast to constituents that do not affect the water density, such as bacteria, induced temperature rises are not in general proportional to the amount of heat discharged, except within small ranges of flows and temperature rises. The proposed flow and temperature will result in a plume similar to that of the existing power plant. However, part of the thermal entrainment is driven by wave action and may not change significantly compared to existing conditions. Further, accounting for the effect of discharge buoyancy on dilution would require extensive analysis. Because the change in plume buoyancy is relatively limited, it is reasonable to assume that receiving water temperature rises are approximately proportional to the rate of heat discharge (BTU/hr). The rate of heat discharge of the new plant will be similar to or somewhat higher than the existing plant during average operation. The data presented in the Thermal Discharge Assessment Report is representative of the conditions that can be expected with the proposed plant.

The proposed plant will consistently cause temperature rises exceeding 4°F along most of the northern shore of Morro Rock, occasionally extending up to 4,000 ft around Morro Rock. These rises may exceed 4°F for varying fractions of the time from 6% to over 40%. The proposed project is considered an existing discharge under the Thermal Plan by RWQCB staff (Thomas 2001). The project will be discharging to Estero Bay using the existing Morro Bay Plant discharge channel. Under the Thermal Plan, Estero Bay is considered to be coastal waters; therefore, the applicable water quality objective in the Thermal Plan is:

Elevated temperature wastes shall comply with limitations, established on a case-by-case basis, necessary to assure protection of the beneficial uses and areas of special biological significance.

The thermal plume from the current plant does not meet the standards of the California Thermal Plan for *new* discharges:

*The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4° F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.*

However, as the RWQCB determined that this discharge is an *existing* discharge, these numerical criteria are not applicable. For existing sources, the thermal plan requires compliance with limitations assuring protection of beneficial uses (CCRWQCB/Briggs 2001a). The existing plume has an impact on the rocky shore communities along Morro Bay. This issue is addressed in the **Biological Resources** section of this FSA. It is clear that the new and existing power plants will not or do not meet the California Thermal Plan standards for new sources.

### Spill Prevention

The applicant has provided general information for the development of a Spill Prevention Control and Countermeasure (SPCC) plan that covers chemical spill control and management of the hazardous materials that will be stored and used on the site.

Some of the hazardous materials used during construction include petroleum hydrocarbons, cleaning fluids and solvents. Waste generated during construction will be stored at a temporary facility onsite, then later transported to an authorized waste management facility. Major hazardous material stored onsite during operation of the proposed MBPP include aqueous ammonia and petroleum-based substances (refer to the **Hazardous Materials Management** section of this FSA for more information). These and other materials would be stored in storage tanks surrounded by a containment berm. Other containment/ treatment facilities include curbs, berms, concrete pits, and use of double-wall piping (when feasible) to minimize potential of a release from ruptured piping. Containment areas will be drained to appropriate collection sumps or neutralization tanks for recycling or off-site disposal. Programs for spill response would be provided for project workers (refer to the **Worker Safety** section of the FSA for further discussion of such programs). As a result of implementing these programs, no significant impacts are expected for soil and water resources. Please refer to the **Mitigation** portion of this section for more discussion of spill prevention.

## CUMULATIVE IMPACTS

## Surface Hydrology

Because stormwater routed to Morro Bay will be monitored as part of the SWPPP, no cumulative impacts have been identified by staff in the area of surface water hydrology.

## Groundwater

As noted above, staff identified a potential significant short-term direct impact due to the project's increased water use during construction. However, it is staff's opinion that the potential for significant adverse short-term or long-term cumulative impacts on groundwater quality or supply is unlikely. Long-term impacts are unlikely because the proposed power plant's fresh water demand will not exceed the historic average water use. In fact, the overall groundwater pumping will be reduced during operation of the new plant by elimination of high demand flows of 80,000 gpd for two-week periods to conduct boiler cleaning operations. As a result, regardless of the water use by reasonably forseeable future projects located in the City of Morro Bay (Duke 2000a), the project is creating a reduction in water use and will not contribute to a significant cumulative impact. In addition, the City of Morro Bay evaluated the availability of water in considering approval of each project and found that domestic water supplies are adequate to meet the additional demand of these projects.

A cumulative short-term impact would occur if the high demand groundwater pumping required during construction at MBPP coincides with the City using the Kaiser Well Field to meet new demand. This combined pumping could cause the MTBE plume, currently north of the supply wells, to migrate and adversely affect the water quality. Staff notes, however, that the City currently relies on State Water Project water and uses groundwater only during interruptions in deliveries from the State Water Project. Please

refer to the **Mitigation** portion for a discussion on measures that can be implemented to avoid a significant cumulative impact to groundwater resources. Please also refer to **Conditions of Certification** for more information.

## Soil Erosion and Sedimentation

Construction and operational activities related to the MBPP project may cause accelerated wind and water erosion; however, the final SWPPP and erosion control/stormwater plans (with Energy Commission staff mitigation measures) would ensure that erosion and potential sedimentation impacts from the MBPP project would not contribute to cumulative impacts related to nearby projects. Also, any nearby potential earthmoving projects would be subject to LORS; therefore, BMPs would be required by such activities.

## Water Quality

The Morro Bay Wastewater Treatment Plant outfall discharges about 6,000 ft north of the existing power plant's cooling water outfall. The effluent from the wastewater outfall does not have any substantial temperature rise, so that cumulative thermal impacts are not a concern. When the cooling water plume reaches the wastewater discharge area, the temperature rises there are very small, so that thermal impacts would not exacerbate existing water quality impacts due to the wastewater discharge.

The Diablo Canyon Nuclear Power Plant, located about 12 miles south of the Morro Bay Power Plant, uses ocean water for cooling, but the distance is such that cumulative water quality impacts are not a concern.

# MITIGATION

# APPLICANT'S PROPOSED MITIGATION

The applicant has claimed that the new combined cycle plant will be designed to use less cooling water at maximum operation. However, the new power plant will use slightly greater amounts of water than the existing power plant has historically used. The impacts of the cooling water system on seawater supply will not result in significant impacts to cooling water supply. Duke therefore proposes no further mitigation measures for the water resources/supply related areas. See the **Biological Resources** section of this FSA for a discussion of biological resources impacts resulting from the cooling water supply.

## Erosion and Sediment Control

The applicant has provided draft Stormwater Pollution Prevention Plans (SWPPP) to address erosion and sedimentation issues.

The AFC and the draft SWPPPs identify a number of potential BMPs for the construction and operation of proposed power plant, associated linear facilities, and the offsite staging areas and satellite parking area:

- Potential permanent vegetation and paved/gravel stabilization.
- The use of soil stabilizers (i.e. water) as appropriate to minimize dust.

- The use of geotextiles and mats to stabilize slopes.
- Storm drain inlet protection to prevent sediment-laden runoff from entering inlets or catch basins.
- Utilize silt fence, straw bale barriers and sandbags to intercept sediment-laden runoff from disturbed soil.
- Swales/ditches and culverts for runoff conveyance.
- Sediment Traps to receive sediment-laden runoff from perimeter ditches and swales.
- Implementation of a spill prevention and control plan.
- Proper disposal of construction wastes.
- Oil/water separator system.
- Covering exposed contaminated soil to protect groundwater and surface water during a runoff event.
- Employee and contractor training for implementation and monitoring BMPs.
- Pipeline construction across Willow Camp Creek to be performed during dry/no flow conditions.
- Grading activities intended to potentially direct sediment laden and spill flows away from nearby watercourses and riparian areas.

## CEC STAFF PROPOSED MITIGATION

### Surface Hydrology/Flooding

To mitigate potential flooding impacts, FEMA will require that the applicant submit geotechnical information in the request for a Conditional Letter of Map Revision (CLOMR) to show that the berms are constructed such that they will protect the facilities under 100-year flooding conditions. If initial studies indicate that the existing berms do not provide the required protection, then the applicant must submit a plan to rehabilitate the berms in the request for a CLOMR. Following construction, geotechnical testing of the berm material and as-built drawings must be submitted to show that the berms have been constructed as planned.

Staff's **Condition of Certification (COC) SOIL&WATER-11** requires the applicant to submit a copy of the approved CLOMR from FEMA before construction within the 100-year floodplain can commence.

In addition, **SOIL&WATER-4** requires the applicant to provide information necessary to satisfy the requirements for a Development Permit as set forth by the City of Morro Bay Flood Damage Protection Plan Ordinance. This information includes, but is not limited to, verification that all proposed sites are reasonably safe from flooding and will not adversely affect the carrying capacity of a watercourse.

### Groundwater

The applicant has not proposed monitoring and mitigation measures that address groundwater issues during the construction of the power plant facilities. Energy

Commission staff identified potential impacts with respect to groundwater use, which include pumping interference, seasonal depletion of water supply and modification of the upgradient MTBE plume. These impacts are related to short-term construction periods. No long-term impacts were identified due to the lower demand for groundwater during operation of the project.

**SOIL & WATER-7** requires the applicant to notify the parties involved in remediating the MTBE plume of increased groundwater use during the construction period. The condition also requires the applicant to install equipment to quantify their groundwater use during this period. These measures will aid in preventing the MTBE plume from migrating toward the City of Morro Bay supply wells.

Energy Commission staff can not evaluate pumping interference and potential modification of the MTBE plume until the aquifer test and analysis required prior to site mobilization are available to quantify or reliably predict these impacts. This evaluation should occur prior to any pumping that could create these adverse impacts. Consequently, staff recommends that Duke conduct an aquifer test to measure well interference at the City wells, obtain aquifer parameters, and evaluate well interference under a scenario equivalent to the high demand pumping required for new construction.

If the model developed from the aquifer test predicts that well intereference will occur at the City's wells due to the project's construction pumping rates, the applicant will be required in **SOIL&WATER-10** to implement a contingency plan that will avoid those impacts. These contingency plans will be required prior to the increased pumping periods.

Staff's **SOIL&WATER-10** states that if the model predicts that the MBPP will impact the MTBE plume, contingency plans to provide alternate sources of water or MTBE treatment units at the City wells will be required. MBPP will be required by **SOIL&WATER-8** to continue water quality monitoring of the supply wells on a quarterly basis throughout construction and until the local MTBE threat has been resolved to insure the groundwater modeling efforts of the City, RWQCB, and the party responsible for the plume have the best available data. Staff will continue to assess the significance of these concerns following receipt of the pre-construction aquifer test results and analyses.

The localized areas of groundwater contamination in the shallow aquifers at MBPP should be considered for treatment and reuse for dust control during construction.

### Contaminated Groundwater/Soils

Improper handling and/or disposal of contaminated soils and groundwater can lead to worker safety impacts and impair the beneficial uses of soil and water resources. Mitigation that is feasible and is typically required in subsurface contamination situations is the characterization and remediation of the contaminated soils and groundwater. **SOIL&WATER-6** addresses contamination in conjunction with **WASTE-3**, which can be found in the **Waste Management** section of this FSA. Refer to the **Waste Management** section of the FSA for further discussion of the contaminated soils and groundwater issues and measures that can be implemented by the project to mitigate these impacts.

## Stormwater and Erosion Control

As required by the NPDES permit, a Storm Water Pollution Prevention Plan (SWPPP) would be implemented to minimize erosion from construction activities. An Erosion and Sediment Control and Stormwater Management Plans that address standard erosion runoff and sedimentation techniques would be developed and implemented for construction, post-construction, and operational phases. These requirements are addressed in **SOIL&WATER-1** and **SOIL&WATER-2**. The applicant needs to provide complete, final Erosion and Sediment Control and Stormwater Management plans to accompany the narrative portion of the SWPPP. The applicant must also provide the following amendments and additions within the final plans for the entire proposed MBPP project:

- The topographic features of the proposed project including areas involving all proposed pipeline construction, laydown (staging) area, and stockpile location(s). The mapping scale should be at least 1"= 100' (1"=50' recommended). Sufficient surrounding area including the topography and existing features should also be provided on the drawings.
- A construction sequence that addresses all sequence of events from initial mobilization until final stabilization (i.e. vegetation/asphalt) is achieved.
- Proposed contours should be shown tying in with existing ones. All proposed utilities including stormwater facilities should be shown on the plan drawings. All erosion and sedimentation control facilities should be shown on the drawings. The drawings should contain a complete mapping symbols legend that identifies all existing and proposed features including the soil boundary and a limit of construction. The limit of construction boundary should include the project facility, pipeline areas, stockpile areas, laydown areas, bike paths, bridge construction, and the offsite staging and satellite parking areas. The limit of construction ensures all work is confined to the proposed MBPP project in order to protect all surrounding areas not involved in construction or operation of the proposed project.
- Silt fence and sandbags should be used to trap sediment, and not as runoff conveyance facilities. Earthen berms or channels can be substituted to intercept sediment-laden runoff and direct it into the sediment-retention basin/trap. A sediment trap should be used for contributing drainage areas less than five acres and a sediment basin should be used for drainage areas greater than five acres.
- All excavated material from the proposed bridges, pipeline, and road construction should be kept away from active flows and out of any wetlands. Site specific BMPs shall be included on the erosion and sediment control plan. The soil should be covered via a liner or anchored mulch. Areas disturbed during construction should be stabilized via permanent vegetation upon completion of the process.
- Specific BMPs for all project-related construction on the drawings (includes but not limited to the access road, bridge crossing, linear facilities, and the offsite staging and satellite parking areas).
- Proposed vegetative areas and a description of revegetation procedures on the drawings to appear on the drawings.
- Soil stockpile management BMPs for water and wind erosion

- Maintenance and monitoring protocol for erosion/stormwater control

In addition, **SOIL&WATER-4** addresses the need to satisfy grading requirements at least as stringent as those set forth by the City of Morro Bay Public Services Department.

The applicant must implement measures to assure that Morro Creek will not be significantly impacted by sedimentation or erosion resulting from construction activities associated with the bridge crossing of the creek. **SOIL&WATER-5** requires the applicant to provide copies of the Section 10 federal permit as required by the U.S. Army Corps of Engineers. This permit contains provisions that work to assure the preservation of the beneficial uses of the watercourses at risk. Additionally, **SOIL&WATER-12** requires the applicant to submit photographs of the pre-construction and post-construction conditions of the bridge crossing area, as well as photographs of the various phases of construction, to the Energy Commission and the U.S. Army Corps of Engineers. These photographs will provide verification that the construction activities are adhering to the provisions of the permit.

## Water Quality

### Wastewater Discharge

Wastewater discharge from MBPP could be affected by new, more stringent effluent limitations if the project is considered a new source under the Clean Water Act and will require a new NPDES permit. The applicant must comply with wastewater discharge requirements contained in applicable permits that specify permissible discharge levels and compliance sampling requirements. Although staff considers it likely that the project can comply with any permit limitations, until the draft NPDES permit is issued, it is unknown at this time how this status will affect the combined wastewater discharge. Please refer to **SOIL&WATER-3** regarding NPDES compliance.

### Spill Prevention

Spills have the potential to cause significant degradation to surface/subsurface waters and soils. Therefore, Energy Commission staff has included **SOIL&WATER-1** as a **Condition of Certification** that requires the applicant to submit a SWPPP that will include an updated Spill Prevention Control and Countermeasure plan.

## FACILITY CLOSURE

The MBPP project is expected to operate for a minimum of 30 years. Closure options range from “mothballing,” with the intent of a restart at some time, to the removal of all equipment and facilities.
The decommissioning plan will be submitted to the Energy Commission for approval prior to decommissioning. Compliance with all applicable LORS, and any local and/or regional plans will be required. The plan will address all concerns in regard to potential erosion and impacts on water quality.

Facility closure activities are not anticipated to impact groundwater resources if contaminated soil and groundwater are remediated and all piezometers, monitoring

wells and inactive supply wells are shut down in accordance with State and Local requirements. **SOIL&WATER-9** requires that the facility closure plan include provisions to address any potential soil and water impacts, including groundwater resources.

## COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)

## FEDERAL

According to a conversation with Bruce Henderson, who represents the Army Corps of Engineers, a Section 10 permit will be required for the proposed Morro Creek bridge project. The applicant will be required to comply with any permit provisions.

The applicant has submitted an Application for a Modification to an Existing Waste Discharge NPDES Permit to the CCRWQCB. However, the CCRWQCB has stated that they will be issuing the facility a new permit, as opposed to a modification of the existing permit. The existing NPDES permit regulates cooling water other wastewater and operational stormwater discharges to surface waters. For the Morro Bay Power Plant Project, the CCRWQCB has determined that the thermal discharge is an "existing" discharge with respect to the State's Thermal Plan. This determination does not relate to the intake structure. The intake structure must meet Clean Water Act Section 316(b) requirements, regardless of previous permit findings. MBPP is obligated to comply with the requirement of 316(b) to meet the "best technology available" criteria. The CCRWQCB is estimating that they will have a draft NPDES permit by the end of December 2001.

### Alternative Intake Designs

The Clean Water Act Section 316(b) requires that the "…location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact". The administering agency for this requirement is the CCRWQCB, which was delegated this authority by the U.S. Environmental Protection Agency. The intake structure must meet CWA Section 316b requirements, regardless of previous permit findings. Duke contracted with Tenera Environmental Services to perform a 316(b) Resource Assessment.

Part of the review included an evaluation of alternative cooling technologies. Alternative technologies include:

- Off-shore intake locations
- Closed cooling systems
- Operational and flow-reduction alternatives

Closed-cycle cooling water systems have fewer impacts to the marine environment but may have impacts to land use, noise, visibility, efficiency, and economics that must be compared to the once-through system. Dry cooling uses no water and hybrid wet/dry cooling system uses much less water than the once-through system. These alternatives are discussed in the **Biological Resources Mitigation Alternatives** appendix.

The final determination of the appropriateness of the technology is to be made not only on the physical design but also on the effectiveness of the design to minimize significant effects on the local organisms. For further discussion of biological resources impacts and cooling alternatives, please refer to the **Biological Resources** section of the FSA.

## RESPONSE TO PUBLIC AND AGENCY COMMENTS

## CITY OF MORRO BAY

On June 29, 2001, the City of Morro Bay filed comments on staff's PSA. Staff's responses are provided:

**CMB-64:** On page 4.13-9, under the paragraph entitled "MORRO CREEK," it should be noted that the applicant has submitted to the City a Draft Morro Creek Flood Hazard Evaluation dated February 21, 2001. The City has reviewed this draft document and prepared review comments, which are contained in correspondence dated May 16, 2001 to Robert E. Cochran II. The City received a revised study in mid-June and is beginning its review.

**Response:** Staff has received and reviewed the applicant's final revised report. The last sentence regarding the applicant not providing hydrologic/hydraulic data for Morro Creek was deleted and information from that report has been incorporated in other sections of the FSA.

**CMB-65:** On page 4.13-12, under the paragraph entitled "FLOODING," reference is again made to the draft Flood Hazard Evaluation prepared by the applicant and the City's review letter of May 16, 2001. The draft report concludes that the proposed MBPP units are not located within the 100-year flood plain subject to verification of the suitability of the existing tank farm berms. The City concurs with this finding and will require that the applicant submit an application for a conditional letter of map revision to FEMA in order to update the 1985 flood zone map. Additional recommendations with regard to the proposed project relative to berm reconstruction and construction to the proposed Morro Creek Bridge are contained in the May 16, 2001 review letter.

**Response:** Staff has reviewed the applicant's report and concurs with the City's statement. The section under the paragraph entitled "FLOODING" has been modified and other sections of the FSA have incorporated information from that report.

**CMB-66:** On page 4.13-21, under the paragraph entitled "STORMWATER RUNOFF," please note that the City standards require on-site drainage facilities to be designed for a minimum 25-year frequency runoff event with safe overland flow or system capacity for the 100-year frequency event. The City just received a draft Stormwater Prevention Plan for review, and will provide comments on the plan.

**Response:** Staff has modified the site drainage design frequency runoff event in the paragraph entitled "STORMWATER RUNOFF."

**CMB-67:** Condition Soil & Water 1 and 2 should be amended to provide for City review and approval of the referenced plans/measures. Soil & Water 4 should be amended to include obtaining a Development Permit pursuant to the City's Flood Damage Prevention Plan Ordinance.

**Response:** Conditions 1, 2 and 4 have been reworded to allow the City to review submittals from the applicant and make comments to ensure that the City requirements are being met.

## CALIFORNIA DEPARTMENT OF FISH AND GAME

On June 25, 2001, the California Department of Fish and Game (CDF&G) filed comments on staff's PSA. Staff's responses are provided:

**CDFG – 30:** CDF&G requests that LORS section should include reference to Fish and Game Code § 5650.

**Response:** This Code deals with water quality-related issues and staff has addressed LORS pertaining to the Federal Clean Water Act which addresses water quality-related issues.

## CONCLUSIONS AND RECOMMENDATIONS

## FLOODING

Staff concludes that there will be no significant impacts regarding flooding of the facility or alteration of the 100-year floodplain if the applicant receives an approved CLOMR from FEMA.

## GROUNDWATER

Based on available information, staff concludes that groundwater use by the MBPP project will likely comply with applicable LORS. Sustained pumping at the high rates required for construction and simultaneous operation of the existing plant could impact the water levels at the City of Morro Bay Well Field and the MBPP wells. Impact to the City will be significant if Morro Bay's primary source of water is interrupted at the same time as maximum demand at MBPP. A significant impact will also occur if MBPP pumping causes plume migration toward the City Well Field, impairs the MTBE cleanup, or MTBE reaches the power plant wells. In Condition of Certification **SOIL&WATER-10**, staff recommends a pre-construction aquifer test and a contingency plan to mitigate any impacts. If proposed conditions of certification are adopted, the project should have no significant impacts with respect to groundwater quantity and quality, and soil resources.

## ***EROSION AND SEDIMENTATION / STORMWATER MANAGEMENT***

Staff believes that the proposed MBPP project will not result in any significant adverse impacts to soil and water resources with the implementation of the proposed mitigation measures and Conditions of Certification.

## WATER SUPPLY

No water is lost during the cooling process with the once-through cooling system. Other process water, which makes up the consumptive water use of the project, is provided by desalinization of seawater, therefore no freshwater is required. The amount of seawater consumed in this process is not considered to cause a significant impact on water supply.

## WATER QUALITY

The Regional Water Quality Control Board has not released a draft NPDES permit for the project at this time. Based on staff's understanding of the proposed project, staff expects that the project will be able to comply with forthcoming discharge requirements. In addition, staff expects that a draft permit will be available prior to the evidentiary hearings for this project and will be able to respond to any NPDES issues at that time. Staff has addressed the aforementioned issues in Condition of Certification **SOIL&WATER-3**.

## BEST TECHNOLOGY AVAILABLE – COOLING WATER INTAKE

The purpose of section 316(b) of the Clean Water Act is to minimize adverse impacts on the aquatic environment caused by cooling water intake structures. This is achieved through the application of "Best Technology Available" or "BTA". Alternative cooling technologies have been analyzed and will be presented in an appendix to the **Biological Resources** section. Alternatives to a once-through cooling system, including dry and parallel hybrid condensing systems, exist, and they are well proven, effective, and feasible technologies. Environmental impacts resulting from these alternatives are addressed in the **Biological Resources** appendices.

## CONDITIONS OF CERTIFICATION

The following Conditions of Certification are recommended for this project:

**SOIL& WATER-1:** Prior to site mobilization of all project elements including off-site staging, laydown areas, and linear facilities, the project owner shall obtain Energy Commission CPM approval for the Final Storm Water Pollution Prevention Plans (SWPPP) as required under the General Stormwater Construction Activity Permit for the project.

**Verification:** No later than 60 days prior to the start of site mobilization, the project owner will submit copies of the final Storm Water Pollution Prevention Plans (SWPPP) to the Energy Commission Compliance Project Manager (CPM) for review and approval and to the City of Morro Bay for comments.

**SOIL& WATER-2:** Prior to beginning any site mobilization of all project elements including off-site staging, laydown areas, and linear facilities, the project owner shall obtain CPM approval of a final erosion and sediment control plan and stormwater management plan that addresses all project elements.

**Verification:** The erosion and sediment control plan and stormwater management plan shall be submitted to the CPM for review and approval and to the US Army Corps of Engineers and the City of Morro Bay for comment no later than 60 days prior to site

mobilization. Approval of the final plans by the CPM must be received prior to site mobilization.

**SOIL&WATER-3:** The project owner shall obtain the National Pollutant Discharge Elimination System Permit from the Central Coast Regional Water Quality Control Board for the MBPP prior to operation. The project owner shall comply with all provisions of the National Pollutant Discharge Elimination System Permit. The project owner shall notify the Energy Commission CPM of any changes made to this permit, including any permit renewal, and shall provide copies of all relevant documentation. The project will not operate without this permit in place.

**Verification:** Prior to project operation, and within 30 days following receipt of a National Pollutant Discharge Elimination System Permit from the Central Valley Regional Water Quality Control Board, the project owner shall submit a copy of the permit to the Energy Commission CPM. The project owner shall submit to the Energy Commission CPM in the annual compliance report a copy of the annual monitoring report submitted to the Central Coast Regional Water Quality Control Board. The project owner shall notify the Energy Commission CPM in writing of any changes to and/or renewal of this permit and shall provides copies of all relevant documentation.

**SOIL& WATER-4:** Prior to any site mobilization at the power plant site, the project owner shall satisfy the requirements of a grading permit as required by the City of Morro Bay Public Services Department and a Development Permit pursuant to the City of Morro Bay Flood Damage Protection Plan Ordinance.

**Verification:** No later than 60 days prior to any site mobilization activity, the project owner will submit all required documents and figures to the CPM for review and approval and to the City of Morro Bay for comment.

**SOIL& WATER-5:** The project owner shall obtain a Section 10 permit from the United States Army Corps of Engineers for the proposed Morro Creek bridge construction activities. The project owner shall comply with all permit provisions set forth by the aforementioned agency.

**Verification:** No later than 30 days prior to any site mobilization activities for the proposed bridge over Morro Creek, the owner shall submit copies of the approved permits from the appropriate agencies to the CPM.

**SOIL& WATER-6:** The project owner shall have an environmental professional (as defined by the American Society for Testing and Materials practice E 1527-97 Standard Practice for Phase I Environmental Site Assessments) available for consultation during excavation activities. The environmental professional shall have authority to stop construction work in the event contamination is encountered. If potentially contaminated groundwater is encountered during excavation at the proposed site as evidenced by discoloration, odor, or other signs, prior to any further construction activity at that location, the environmental professional shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and the CPM stating the recommended course of action. If, in the opinion of the environmental professional, significant remediation may be required, the project owner shall contact representatives of the DTSC, CCRWQCB, and the City of Morro Bay for guidance and possible oversight. Similar requirements regarding

proper management of contaminated soils are provided in the **Waste Management** section of the FSA.

**Verification:** At least 60 days prior to the start of site mobilization, the project owner shall provide the CPM with the name and qualifications of the selected environmental professional for approval, and a work plan which details the procedures which will be used to address any contaminated groundwater, should it be encountered during construction for approval. Site mobilization can not commence until the environmental professional and the work plan are approved by the CPM. The work plan will identify how the project owner will address any adverse impacts and the mitigation measures to be used to render them less than significant. Should contaminated groundwater or soil be encountered, the project owner will notify the CPM in writing within five days. Any reports filed by the environmental professional regarding any contamination shall be submitted to the CPM within five days of completion. Remediation shall have oversight and approval by the CPM and shall be coordinated with the DTSC and/or the CCRWQCB.

**SOIL& WATER-7:** Prior to the start of site mobilization, the project owner shall ensure that the City of Morro Bay, CCRWQCB and the party responsible for the MTBE contamination are notified of increased groundwater use. The MBPP on-site wells shall be equipped with operational flow meters and totalizers to quantify short-term and long-term groundwater pumping.

**Verification:** At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM, for review and approval, a statement that identifies a contact list for the City of Morro Bay, the RWQCB, and the party responsible for the MTBE contamination and that the supply wells have been equipped with flow meters. At least 15 days prior to the start of site mobilization the project owner shall submit to the CPM a statement that the three parties have been notified. The project owner shall meter and record all groundwater flow throughout the six year (or more, as applicable) construction, demolition and site restoration period as well as the operation of the proposed MBPP. Results of the flow record will be submitted to the CPM quarterly.

**SOIL&WATER-8:** The project owner shall perform quarterly water quality testing of the on-site supply wells for MTBE. Additional water quality testing currently performed by the Mutual Water Company as required for small, non-community systems, shall be continued.

**Verification:** The project owner shall submit MTBE test results with a brief report quarterly to the RWQCB, City of Morro Bay, and the CPM until case closure by the CCRWQCB and the City of Morro Bay. The report will identify all test results, water quality trends and recommendations, as appropriate, to protect workers and the environment in the event MTBE reaches the project's wells.

**SOIL& WATER-9:** The project owner shall include in the facility closure plan for the proposed, new MBPP, a description of closure activity potential to impact soil and water resources, including requirements and procedures for destruction and capping the wells. The conditions for closure will be determined when a facility closure plan is submitted to the CPM twelve months prior to closure of the facility.

**Verification:** Twelve months prior to facility closure the project owner shall submit a facility closure plan to the CPM for review and approval.

**SOIL&WATER-10:** The project owner shall conduct an aquifer test to determine the effects of increased pumping of the project's wells on water levels and water quality in the nearby City of Morro Bay wells. The aquifer test shall be performed by a Registered Geologist or Professional Engineer experienced in aquifer testing and analysis. The test shall use the North project well for pumping. At a minimum, the nearest City well and the nearest MTBE monitoring well shall be used for water level monitoring during the aquifer test. The test shall continue for a minimum of 72-hours at a constant rate of 50 gpm or more.

- The pump test analysis shall calculate potential well interference using a "worst case" scenario of 2 years of drought (i.e. no recharge), the City of Morro Bay pumping of 1000 acre-feet/year, and the project owner pumping (whatever the maximum is). Analysis can be based on the Theis equation or similar equations to predict drawdown at radial distances from the pumping well. If interference is estimated to exceed 5 feet or City pumping levels will approach within 2 feet of the pump or top of screen, the project owner shall develop a contingency plan that either reduces groundwater use by the project owner to a level where exceedance of the trigger levels is not predicted to occur or requires the project owner to provide alternate water sources to the City of Morro Bay. The pump test results, analyses and contingency plan will be submitted to the CPM for review and approval, and to the City of Morro Bay for comment.

- Analysis shall also evaluate the potential for pumping of the project owner's wells to influence the MTBE plume. The analysis shall use the groundwater flow model developed by the responsible party (Shell Equillon) or develop a new model based on site-specific aquifer parameters. If the analysis indicates that project pumping will cause a change in groundwater flow direction away from the MTBE extraction wells prior to case closure by the RWQCB and the City of Morro Bay, then the project owner shall develop a contingency plan that either reduces groundwater use by the project owner to a level where no change in groundwater flow is predicted to occur or requires the project owner to provide alternate sources of water to the City of Morro Bay. The pump test results, analyses and contingency plan will be submitted to the CPM for review and approval, and to the City of Morro Bay for comment.

**Verification:** Results of the aquifer test and analysis shall be submitted to the CPM at least 60 days prior to site mobilization or within 30 days of completion of the pump test analysis, whichever is earliest. If the analysis indicate the trigger levels will be reached or the flow direction will be modified, the contingency plan shall be prepared and submitted at least 30 days prior to the start of increased pumping for construction. The CPM shall coordinate review of the pump test results and approval of the contingency plans, with the City of Morro Bay, prior to the start of pumping.

**SOIL&WATER-11:** The project owner shall prepare and submit all of the information required to request a Conditional Letter of Map Revision (CLOMR) to the Federal Emergency Management Agency (FEMA). FEMA needs 90 days to review and process the request. The ninety-day period does not start until sufficient information has been submitted to initiate their review. Therefore, the project

owner should determine the earliest date required for the submittal that would not impact the start of construction.

**Verification:** No later than 30 days prior to site mobilization, the project owner shall submit copies of approved CLOMR from FEMA to the CPM and the City of Morro Bay.

**SOIL&WATER-12:** The applicant shall provide representative photographs of the proposed Morro Creek bridge crossing site from locations documented on a plan drawing indicating direction of the photograph. Photographs shall document pre-project site conditions, as well as implementation of the project during construction phases, and post-project conditions, including any required mitigation.

**Verification:** Photographs of pre-bridge crossing project conditions at Morro Creek shall be provided no later than seven days prior to site mobilization for the Morro Creek bridge project. Photographs of construction phases shall be delivered to the CPM and the Army Corps of Engineers within 48 hours of completion of each respective construction phase (digital photographs by e-mail, color facsimiles, or photographic prints are equally acceptable). Post-project photographs shall be provided within 30 days following completion of the project.

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